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ORIGINAL CONTRIBUTIONS.

DIPHTHERIA.

BY SAMUEL AYRES, M. D., KANSAS CITY, MO.

In view of the fact that diphtheria, from a mortality standpoint so far as the young are concerned, ranks above all other epidemic diseases in this country, and inasmuch as the season is upon us when deaths will multiply and epidemics prevail it can not be out of place to look over the field of work and see what, in the light of current observation, has been added to the sum of our knowledge of its nature, causation and treatment.

Before entering upon a discussion of the points yet *subjudice*, it would be well to state certain fundamental facts which are accepted by all. 1st. Its *nature*. Diphtheria is infectuous and contagious, characterized by more or less severe constitutional disturbance and local inflammation of a mucous, skin, or wound surface; this inflammation being usually necrotic and attended by an exudate known as false membrane.

Says Prudden: "While there is always a local inflammation the false membrane is sometimes absent in true diphtheria." A false membrane indistinguishable in gross anatomical character from that of diphtheria may be produced by a variety of chemical or mechanical irritants. It is only essential that the agent be capable of destroying the epithelial covering of the mucous membrane and inducing the emigration of leucosites and exudation of fibrine. The essential difference between the diphtheritic and non-diphtheritic membrane consists of the presence in the former and absence in the latter of certain micro-organisms.

2d. *Causation.* It is certain that a virus which finds a suitable culture medium in, or is caused by "unhygienic conditions," as this term is ordinarily understood, and which is capable of reproducing itself, is the essential causative agent.

If this were not true it would be difficult to understand how a letter sent from an infected household could be a starting-point of a widespread epidemic in a distant community.

The points upon which real differences of opinion turn, are:

1st. Nature of the virus, microbic or non-microbic.

2d. Identity of the micro-organism.

3d. Mode of infection, primarily local or constitutional.

As to the first it is only necessary to state that in every false membrane known clinically to be diphtheritic, several varieties of bacteria are invariably found in large numbers, and that pure cultures of some of these bacteria rarely fail, upon inoculation of lower animals, to induce pathological changes, at least analogous to those of diphtheria in man, whereas in membranes known to be the result of mechanical or chemical irritation, the species of bacteria, some of which are *always* found abundantly in diphtheria, are only occasionally met with and then in small numbers.

They are no more constant in these non-diphtheritic membranes than in the mouths of healthy persons. The fact that the several micro-organisms to which the causative agency of diphtheria has been attributed are those occasionally found in small numbers in the mouths or throats of healthy individuals, or those suffering from other diseases, forms the only basis of objection to the bacterial origin of the disease.

It is known positively that anthrax is due to the bacillus anthracis, and yet the bacillus may certainly be found in the mouths of some who are exposed to it, but who do not develop the disease. Prudden found that by raising a dust in the apartments occupied by his diphtheritic patients and allowing some of this dust to settle upon culture broth, the streptococcus diphtheria could be produced in abundance. Certainly they settled also upon the mucous membrane of his respiratory tract, but he gives no account of inconvenience therefrom. He states, however, that when animals were inoculated with *pure cultures* of these same micro-organisms carried through several generations, most of them showed susceptibility—a few did not. Certain other conditions in addition to the presence of the specific microbe in the system must assist in determining their growth and the development of disease manifestations. Circumstantial evidence is all in favor of the microbic agent; upon no other hypothesis can the phenomena of the *propagation* of diphtheria be explained.

If the occasional presence in healthy mouths of micro-organisms supposed to be the etiological factor, is sufficient to establish their negative relation to diphtheria, then the bacillus anthracis can be proven not to sustain an etiological relation to anthrax, which is absurd.

Identity of the micro-organism. The several varieties of bacteria to which special attention is drawn, are the Klebs-Loeffler bacillus, the short bacillus of Emmerich and the streptococcus diphtheria of Prudden. These observers are known for their special skill and patience in the field of bacteriological study and their reports are entitled to credit.

Loeffler found invariably in the pseudomembrane of diphtheritic patients large numbers of a bacillus resembling the bacillus tuberculosis. Pure cultures, when inoculated upon the mucous membranes of lower animals, produced inflammation with more or less exudate. The constitutional symptoms also resembled those of diphtheria in man. Many of his victims died; usually at the end of two or three days. Klebs confirmed the observations of Loeffler, but discredit was cast upon their observations by Von Hoffman Wellenhof, who declared that their bacillus was sometimes absent and sometimes was harmless. Loeffler, however, afterward announced the occasional presence of a harmless bacillus and it seemed that this was what Von Hoffman had taken for the original Klebs-Loeffler bacillus.

Klebs and Loeffler noted the presence in their cases of many other forms of bacteria, but were not led by their experiments to attribute to them any causative relation to the disease. They did not observe the bacilli in any of the internal organs. Their observations were fully confirmed by the researches of D'Espine, who cultivated the bacillus to the twenty-fifth generation, and still induced the characteristic symptoms of diphtheria by inocculation of the guinea pig and the rabbit. He further demonstrated its presence in every one of fourteen cases of undoubted laryngal diphtheria, and in not one of twenty-four cases of simple laryngitis could he find it.

In seven cases of diphtheria examined immediately after death, Emmerich was able to demonstrate the presence of a short bacillus distinct from the Klebs-Loeffler bacillus. It was found in the mucous membrane of all the air passages, in the pneumonic infiltrations and in small numbers in the blood taken from the heart.

Inocculations of its culture upon the mucous membrane of cats and dogs were followed by the formation of pseudo-membrane with constitutional disturbances. He states that this short bacillus was associated in the false membrane examined, with the Klebs-Loeffler bacillus, the streptococcus, the staphylococcus and other species of bacteria. While the experiments and deductions of Emmerich are to be respected, they lack as yet the weight which attaches to the report of Loeffler and Prudden, because the cases examined were few in number, and collateral testimony is wanting to substantiate them.

The last micro-organism to appear upon the field as a candidate for the honors of an etiological relationship to diphtheria is the streptococcus diphtheria. To Dr. Prudden, of New York, it is indebted for its name and the prominence to which it has attained in the world of bacteria. It is a chain-forming coccus as its name implies. Out of twenty-four test cases in and about New York, Dr. Prudden found it in twenty-two in large numbers in the pseudo-membranes,always associated with other bacteria and sometimes in small numbers in the kidneys, liver, spleen and lymphatics. While inocculations of the pure culture occasionally failed to produce any pathogical changes in lower animals, it generally set up inflammation of a phlegmonous or erysipelatous nature, attended by more or less severe constitutional disturbance, sometimes by death. He failed to develop from any inoculation what he considered a typical case of diphtheria. His work was prosecuted with his usual skill and patience, the sources of error were carefully guarded and his deductions were apparently unbiased. He very accutely observes that while his streptococcus did not produce diphtheria in the lower animals, the phlegmonous or erysipelatous inflammation which it did set up may thus be considered as having a closer etiological relationship to diphtheria. He reminds us that during epidemics of diphtheria, erysipelas and puerperal fever are also more frequent.

Having failed by inoculations of his streptococcus to reproduce a plain case of diphtheria, Dr. Prudden announces his belief that "there does not appear to have been a single case in which an effect was induced which could fairly be absolutely identified with the human disease."

This conclusion is not warranted by the report of his experiments inasmuch as he does not claim to have inoculated with the same micro-organism which others claim did induce the pseudo-membrane with the other symptoms. The streptococcus may be sufficient to generate in man the aggregate of lesions and symptoms by which we designate a case diphtheria; by inoculation on lower animals it might produce erysipelatous or phlegmonous inflammation though it could not produce diphtheria as it appears in man, or it might, under favorable circumstances, give rise in the human to erysipelas or puerperal septicemia. In this there is no evidence that the Klebs-Loeffler bacillus or the short bacillus of Emmerich is not capable under favorable circumstances of producing the disease typically in both man and the lower animal. That true diphtheria does exist in the lower animals and is communicable from them to man is attested by so many competent witnesses from so many angles of observation as to leave no room whatever for dispute upon that point. We have seen then that three competent observers whose studies were conducted in widely separated countries, and entirely independently of one another, each found in their cases a variety of bacterial species associated together always in large numbers in the pseudo-membrane and each one has selected a *different* micro-organism as the etiological factor. They were each led to their conclusions by the abundance and constancy with which the organism occurred in each set of cases, and by the positive results obtained by culture and inoculation. We must conclude therefore that under the influence of certain unhygienic conditions several species of bacteria singly or collectively may be generated and find upon mucous or wound surfaces a soil suitable for their multiplication and the production of a chain of local and general pathological conditions which we designate, diphtheria.

3d. *Mode of Infection.* Two opinions prevail as to the manner in which the virus acts upon the system. One, that the disease is localized at first at the point upon which the pseudo-membrane or inflammation occurs and that from this focus the ptomaines produced by the specific micro-organism enter the circulation and so produce constitutional manifestations. The other view is that the virus, whatever its nature, enters the system at once and produces from within all its symptoms and lesions of which the pseudo-membrane is but one.

This question will probably remain in dispute as long as any differences exist as to the identity of the micro-organism but so far as our present data permit an interpretation in that direction the opinion is warranted that the disease is nearly always local in the beginning. Occasionally there are constitutional symptoms for two or three days before surface lesions are observed but this is rare and does not materially invalidate the local theory since abundant exudate has been known to exist without attracting the patient's attention. The intense irritation of neighboring tissues and especially of lymphatics leading from the seat of the pseudo-membrane is evidence enough that a virus is being absorbed there from.

Vaughan very recently isolated the bacteria of typhoid fever, made pure cultures of them, filtered them from the culture medium and then extracted from the culture fluid the alkaloidal ptomaine generated during their sojourn in his test tube. Hypodermic injections of this substance produced the symptoms of typhoid fever in severe form. Prudden in the course of his experiments with the "streptococcus diphtheria" proved that the filtered culture media were powerfully irritant. It is certain then that in the pseudo-membrane are developed ptomaines sufficient to produce the constitutional symptoms, provided they are freely absorbed.

Now what are the facts as to the relation between the location and extent of the pseudo-membrane and the toxemia? When the membrane is confined to the larynx or trachea the symptoms of strangulation are preeminent; those of toxemia are usually slight. If, on the other hand, the local lesion involves the pharynx, but more especially if it involves the naso-pharynx, the constitutional symptoms are relatively pronounced.

The explanation lies in the fact that in the larynx and trachea there are few absorbents to take up ptomaines, in the pharynx there are more and in the nasal passages they are most abundant. The old classification whereby all cases in which the pseudo-membrane was below the glottis were denominated pseudo-membranous croup and looked upon as non-contagious has given way before a more thorough understanding of the disease. We now speak more of laryngeal, tracheal or bronchial diphtheria and less of pseudo-membraneous croup.

It is not denied that a false membrane in the air passages may be produced by other causes than the micro-organisms which produce diphtheria. Fumes of ammonia, of nitric acid, steam and perhaps a suddenly chilled atmosphere may give rise to such a lesion and in the case of the last cause it may affect several in a community at the same time. These would all be among those known to be susceptible to irritation of the lower air passages. It is now conceded however that few casse of pseudo-membraneous laryngitis not produced by the diphtheritic virus will fall within the observation by any one man.

What are the facts with regard to the presence of bacteria in the fluids or internal organs upon which the theory of the primary constitutional nature of the disease must rest? The Klebs-Loeffler bacillus was nowhere found except in the pseudo-membrane or in the contiguous lymphatics. The short bacillus of Emmerich was not found internally except occasionally and in very small numbers in the blood from the heart.

The streptococcus diphtheria was found abundantly in the pseudo-membrane and pneumonic infiltrations and in small numbers in the kidneys, liver, spleen and lymphatics. Prudden admits the impossibility of differentiating with our present methods the streptococus diphtheriae from the streptococcus pyogenes or streptococcus erysipelatos, and Klebs, Loeffler and Emmerich each testify to its presence in greater or less numbers in their cases. It is probable therefore that the conditions under which the disease apears may give to the bacterium of suppuration or of erysipelas a special virulence whereby it induces in man the manifestations of diphtheria. Future inquiry may however show the non-identity of the organisms.

The conclusion would seem to follow then that the bacilli are capable of operating solely from the exterior and that the streptococci may operate in part from the external lesion and in part from within. It seems probable however, that those found within the system had migrated from the culture bed of pseudo-membrane.

Treatment. Without commenting on the measures whose merits are already established, chief among which are tincture of the chloride of iron locally and alcoholic stimulants freely from the beginning, intubation or tracheotomy, I wish to emphasize the importance of one agent recently added to the list, *hydrogen peroxide.* My own experience with it in diphtheria dates from November 1887. For its discription and history the reader is referred to an article by E. R. Squibb, M. D., in Gaillord's Medical Journal March, 1889. It is little less agreeable to the taste than water, is perfectly harmless when swallowed and while exerting a powerful action upon dead tissue or discharges is without unpleasant effect upon the most sensitive parts. When applied freely and frequently it rapidly disintegrates the false membrane.

These qualtities render it particularly useful in the very young where we fear the effect of swallowing whatever may be of sufficient germicidal power to be of signal benefit, but the class of cases to which it seems specially adapted are those in which the nasal passages are involved. Here the absorbents are most abundant, the exudate fills the passages completely so that it is extremely difficult to get disinfectant agents in contact with every part and the little patient quickly succumbs to a fatal toxemia.

I have several times seen this plug disintegrate in a few minutes befor a stream of the hydrogen peroxide.

The application of this remedy should be accompanied by the local use of tincture of the chloride of iron in glycerine and water solution, this latter agent restoring to the damaged tissues their vital tone as nothing else can.

Many of the relapses in diphtheria are due to the fact that the relaxed and vulnerable tissues are again invaded by bacteria which remain lodged in the folds of membrane or cripts of the tonsils. Thorough local treatment should be instituted at the very beginning and should not be suspended until there is restoration of the mucous membrane to its normal condition; it is *thorough* only when it is brought in contact with the entire naso-pharynx.

It has been claimed recently that turpentine in teaspoonful doses of the spirits has effected remarkable results in clearing the lower air passages of pseudo-membrane when every other means had failed.

THE FORMATION OF ARTIFCIAL URINARY CANALS.—WITH ILLUSTRATIVE CASES.*

BY WM. N. WISHARD, M. D., INDIANAPOLIS, IND.

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The necessity occasionally exists for the formation, in whole or in part, of new channels of exit from the urinary bladder. The length of the uretha in the male bears no essential relation to its function as a conduit for the urine. Its valvular integrity, its calibre, and the presence of a lining mucous membrane are however necessary factors in its permanent and independent usefulness.

The establishment of a new urinary channel therefore involves the necessity of producing a channel sufficiently large for the escape of urine, and the subsequent maintenance of its patency by surgical means, as such artificial canals will constantly incline to contract and their usefulness be thereby diminished.

The principal conditions requiring the partial or entire formation of new canals in the male, are:—The obliteration of the urethra, by disease or accident; the presence of morbid growths, producing pressure and mechanical obstruction to the outflow of urine; disease of a portion of the urethra necessitating the temporary or permanent suspension of its function; the existence of any condition necessitating direct and constant drainage of the bladder.

The following cases illustrate to some extent the practicability of the formation of channels to supplant the urethra, and are suggestive of some important points in the after management of such cases.

Case 1. John W———, colored, age seventy years, occupation, a laborer, was admitted to Indianapolis City Hospital, July 6, 1886. The following is the history of his case as given by himself, and prepared for me by Dr. J. H. Singleton, House Physician. "First contracted gonorrhea about 1864, and was unable to stop the discharge, although he used countless prescriptions. It gave him no trouble during micturition, except a very severe burning sensation for three or four years. About 1868 there was a decrease in the size of the stream of urine, and considerable more burning after urination.

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*Read before the Mississippi Valley Medical Association, at Evansville, Ind., Sept. 12, 1889.

"A physician at that time ordered the use of a small catheter, which he continued to use for three or four years. He was admitted to the City Hospital in 1873, nine years after he contracted gonorrhea. At the time of his admission the urethra was almost closed, and there was retention of urine.

"A few days after admission an operation of some kind was performed, patient recovered nicely, and seven months later was pronounced almost well, and discharged. He had no trouble in urinating for about eight months, at which time he experienced burning sensations, and in a few weeks he again had retention. He then began the use of a large sized knitting-needle and kept up this practice, with intervals sometimes of two weeks, until about November, 1881, when the urethra entirely closed, and he was unable to pass the knitting-needle, when retention of urine, abscess, and fistulous openings followed.

"The urine kept dribbling away through these urinary fistulae for five and one-half years, and the patient was admitted to the City Hospital for the second time, July 6, 1886, at which time he was unable to void his urine except through the fistulous openings shown in photograph of the case. He was very weak and feeble, and the abdomen was tympanitic and painful, as though suffering from an attack of peritonitis."

An examination of the genitals showed the meatus to be completely closed, and the scrotum bound down to the lower portion of the symphysis pubis, and on its posterior border, continuous with an irregular cicatrical mass of tissue, which extended to within three-quarters of an inch of the anus, covering almost the entire perineum, and projecting about an inch and a half further outward than the original surface of the perineum. This mass was honey-combed by numerous fistulous openings, some of them apparently long since closed, and some still doing duty as channels for the escape of urine. The mass projected so far that he was unable to sit upon a chair without getting near the edge, so that it might project and not be pressed upon. Firm, or even moderate pressure produced pain. He had been passing his urine through the fistulous openings so long, and he was so extremely weak and of such advanced age, that it was deemed unadvisable to attempt any measure of surgical relief at the time. Hot applications were used to the abdomen, and morphia hypodermically, to allay pain and an occasional saline purge given. He improved and was able to be about the ward in a short time after his admission. He had frequent relapses, however, and in some two and a half months from date of admission it was determined to perform Cock's operation.

I performed this operation before the class at the City Hospital, with the assistance of Drs. P. Baker, A. W. Brayton and E. S. Moffett.

The operation consisted of puncturing the urethra near the apex of the prostate. I entered the point of a stout straight knife in the median line of the perineum, about three quarters of an inch in front of the anus, passing it steadily forward until the end of the knife was felt near the end of the finger in the rectum. The knife blade was then turned transverse and carried forward into the uretha, as indicated by the free flow of urine. Great relief followed this operation. It was necessary however, to dilate this new urinary channel occasionally, as it showed a constant disposition to contract. It however, for two and a half years answered the purpose of an urethra and he had perfect control over its action. He had upon exposure or over-exertion occasional mild recurrences of his old abdominal pain with slight distention. His condition otherwise was favorable for a feeble old man, who had endured the suffering he had during the preceeding twelve years.

An effort was made to re-establish the original urethra. It was successful in restoring the canal from the meatus to within one-half inch of the artificial opening. The completion of this effort by connecting the portion of the original channel thus restored was left for a subsequent operation but was not done owing to the formation of a large pelvic abcess, due probably to the presence of a vesical calculus as shown by the post mortem. The canal thus made answered the purpose of an urethra and certainly prolonged the patient's life for two years and a half, that being the period between the first operation and his death.

In this case I used straight gum bougies for keeping the canal open. I regret that a metal instrument was not occasionally introduced as it might have disclosed the presence of the the stone which the symptoms had not indicated until just prior to his death.*

Case 2. Moses S———, age 13 was sent to the Indianapolis City Hospital, February, 1888, by Dr. Ingersoll, of Lafayette, Ind. The patient had been operated on for stone by a median incision in Russia, some five or six years before.

The knife had been accidentally carried through the prostatic urethra into the rectum, producing a large recto-urethral fistula. Urine was constantly escaping from the rectum when the bowels were moved. Small quantities of fecal matter were also passed by the urethra in urinating. Three efforts were made to close this opening and it was reduced so much that a small uterine probe only was admitted and fecal matter ceased to pass by the urethra. Another effort was contemplated, but the boy's parents moved to Chicago and he left the hospital. The case is reported in this connection as illustrating the possibility of utilizing the rectum in cases where, for any reason, bladder drainage cannot be obtained by a perineal or supra-pubic opening. In this case there was no irritation of the rectum, although it had been used as a receptacle for urine for five or six years. The bladder had contracted very much owing to its imperfect use, produced by constant drainage into the rectum. The opening was large enough for me to pass my finger from the rectum into the bladder at the time the first operation for closing it was made.

Case 3. Freddie G———, age two years, admitted to the Indianapolis City Hospital from the Orphan Asylum, May 24, 1889. I saw the child the following day by request of Dr. John H. Oliver, superintendent.

I found him suffering from retention, and it was impossible to pass an instrument of any kind into the bladder through the natural channel. The bladder was very greatly distended, reaching above the umbilicus, and was pressed upon and literally lifted out of the pelvis by a large and rather firm tumor which occupied the entire pelvic cavity. The pressure exerted upon the deep urethra and neck of the bladder was sufficient to prevent the escape of the urine and the introduction of a catheter.

The enlargement was (at the post-mortem made by Dr. Oliver,) found to be an aneurism of the internal iliac artery. At the time of my first visit, the child was so far exhausted that nothing but a supra-pubic aspiration was done for immediate relief of retention. On the following day it was determined to try and prolong the child's life a short time; which was all that could be hoped for, by doing an external urethrotomy and getting drainage through a perineal tube. On making this operation it was found that the bladder and urethra had been so pressed upon by the aneurism and bladder lifted so high up, and the urethra made so tense that nothing but a very small catheter could be passed into the bladder through the perineal incision. The tension and pressure were so great that very imperfect drainage was obtained and the pressure of the catheter could not be borne. Accordingly I decided upon a supra-pubic opening which was made on the fourth day after the child's admission. An incision was made above the pubes, and a canal established according to the plan suggested by Dr. Hunter McGuire for the formation of an artificial urethra in cases of enlarged prostate. The bladder was successfully drained by catheter through this opening and some improvement in the child's general condition followed for a few days, but its death occurred from exhaustion on June 6.

Case 3. James McW———, age 56 years,

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*A partial report of this case was made before the patient's death, in a paper on external urethrotomy read before the Marion County Medical Society, Oct. 4, 1887. See Indiana Medical Journal, January, 1889.

came to my clinic at the City Dispensary, last August, suffering with a complication of chanchroid and gonorrhea with a peri-urethral abcess which had opened upon the upper side of the penis one inch and a half behind the corona glandis. In addition there was a decided phymosis and immediately behind the opening of the peri-urethral abcess there was a tight constriction of the skin around the body of the penis. The patient was at once sent to the City Hospital where I enlarged the opening for drainage of the abcess and the chancroids were cauterized and the penis kept a considerable portion of the time in a warm water dressing.

An effort was made to keep the urethra open which was found difficult to do owing to multiple strictures which were made tighter by a gonorrheal congestion. He remained in the hospital a few days and left against advice, considerably improved, but by no means well. He returned shortly afterwards, much in the same condition as when first admitted and repeated his former experience by getting somewhat better and then running away before he was well. This time a debauch was followed by a work house sentence, in the City Court, and I saw no more of him for two months, when he was again admitted to the hospital. The penis bore no resemblance to its former appearance, but was simply a mass of broken down tissue, ulcerating, sloughing and discharging pus and bleeding freely when touched. It had some features suggestive of epithelioma and there was no question as to the necessity of its entire removal. In urinating it had somewhat the appearance of a sprinkling spout as the urine escaped through the various openings. I made an opening into the urethra through the perineum just behind the scrotum. A large catheter was passed into the bladder and kept in position almost constantly for three weeks. The penis or what was left of it, was subsequently amputated. He was greatly improved in general health, and the opening thus made has answered the purpose of an urethra, ever since, and the patient has perfect control over its action.

A REPORT OF THREE CASES.

BY J. H. THOMPSON, M. D., KANSAS CITY, MO.

My purpose in reporting the following three interesting cases is, in part, to put on record some clinical observations which I think deserving, and to remind the readers of this journal that even specialists are ignorant of many things which they are expected to know. However much one may be experienced in some diseases, the simplest, most common-place affections of the human body are often fuel for intense study and we have daily proof that the learning of no medical practitioner is complete.

It is not many days since the great Hutchinson, of London, acknowledged to his society that the case he had the honor to present was an enigma to him, for he did not know what the disease of the skin was. As with dermatologists, so with surgeons, physicians and ophthalmologists, peculiarities in diseased conditions sometimes arise, which baffle experience. At the the present day we are better prepared than formerly, thanks to the microscope and other instruments of precision to solve some of the difficulties in medicine, but sometimes, after reflection, we are compelled to say, "we do not know." The following cases are unusual, to say the least, and present some peculiarities worthy of attention:

Case 1.—Peliosis rheumatica; suppurating irido-choroiditis in both eyes.

Annie L., aged six years, was one of eight living children of healthy, robust parents. The little girl had never suffered much from the ordinary complaints of childhood, although at one time she had had a suppurating gland below the angle of the jaw, but previous to this illness she appeared remarkably well. The family occupied the second floor of a detached house, which was well ventilated and without sewer connection. The privy was at the end of the yard.

One Friday morning in January, she and her mother walked to the business part of the city, made a few purchases and returned home. The day was warm and pleasant; she had taken nothing to eat or drink while out. As soon as she reached home, she ran to the closet and had a large, soft evacuation of the bowels, which was followed a few minutes later in the house, by a very copious diarrheal discharge containing masses of mucus. She then had a chill and was put in bed. The fever which followed was very high and continued during the night. With the fever there was delirium, and by midnight profound coma. The family physician, Dr. J. Block, saw the patient early the following morning and found her in coma, high temperature, dry skin and rapid pulse. He gave her the usual antipyretic medicines. By noon the coma disappeared leaving the child slightly delirious, but sensible; the temperature dropped to 103 and the pulse 140. That night she complained that the light of the lamp in the room hurt her. The physician then noticed that the eyes were inflamed and called me in consultation. I saw the child the following morning and found her totally blind in both eyes. There was a suppurating irido-choroiditis; the pupils were moderately contracted, the anterior chamber half filled with pus, a purulent deposit and a gelatinous layer of inflammatory exudation covered the irides. The eyes were red, hard and painful, and the very slightest amount of light perceivable caused the most intense photophobia. The condition of both eyes was the same.

On a careful examination of the body we found a slight hemorrhagic eruption over the arms and legs. It was not diffused, but well marked; also some swelling of the wrist joints and the fingers, but the swelling was not sufficient to suggest rheumatism. I do not know that in my experience I ever saw such a mouth and tongue. The inner surface of the lips and anterior half of the tongue were covered by an herpetic eruption which was so confluent that it made one continuous mass covering the mucous surface and the skin from the nose around the mouth to the chin. At the time it was yellowish white, but in twenty-four hours turned black because of the extravasated blood. The general condition of the patient indicated profound depression and although neither of us could tell the name of the disease, it was evident that the condition could not last long. The treatment was entirely supportive, warm antiseptic applications to the eyes and instillations of a solution of atropia. The following day the child was some better; the joints still swollen and the purpura more marked; the eyes about the same, but pupils half dilated. Under the warm applications the anterior chamber cleared up, all the purulent and gummy deposit disappeared, but behind the transparent lens could be seen the ominous white yellow reflex of pus in the vitreous chamber. As the general condition of the child improved so did the eyes grow worse; in a day they became soft and remained so. One week from the day of attack the patient was well but the blindness remained total. The eyes were destroyed.

This case was, to say the least, extraordinary. As the skin eruption and joint inflammations became more marked, the disease, peliosis rheumatica, could be recognized. But what could have excited the remarkable disturbance in the eyes? From a bacteriological standpoint it could be suggested that the trouble, from the beginning to the end, was a species of septicemia, perhaps dependent upon the ingestion or inhalation of a quanity of pyogenic organisms. It is true, that idea is somewhat visionary, but until some more plausible explanation is given the cause must be hypothetical. As the name suggests, peliosis rheumatica is a general blood disease closely allied to rheumatism, and it is not uncommon to see rheumatic iritis; but the septic condition of the interior of the eye in connection with the above disease in childhood, or indeed, in adults, is uncommon, if not unknown. In the literature at my command I cannot find a similar case reported.

The two following cases are probably of more interest to the general practitioner than to the specialist, inasmuch as they suggest the discussion of the relationship between croup and diphtheria.

Case II.—Simple conjunctivitis diphthritica. During the early fall Mr. H. of Lee's Summit, consulted me for an acute trouble of his right eye. He had been sick several days before he came to Kansas City, and at the suggestion of his physician he entered the hospital under my care. The patient was the son of a well-to-do farmer, twenty-two years old, tall, stout and rugged. Six days before, without any known cause, he was attacked by an inflammation of his right eye, which grew rapidly worse and finally compelled him to go to bed. There was great pain and physical exhaustion.

When I examined him, I found the lids, especially the superior one, enormously swollen, hard, red and extremely painful to the touch; the upper covered the lower as in gonorrhœal ophthalima and from the eye trickled down the cheek a sanious, irritating discharge; the gland over the angle of the jaw was enlarged and painful; temperature about 102, pulse 120. By carefully lifting the upper lid away from the cheek, I could in places see a diphtheritic deposit, but at the time the eye proper was invisible. The diagnosis was easy, diphtheritic conjunctivitis; but I could not understand how a man could contract the disease, comparatively alone on a farm, away from any source of infection, and in a locality wherein the disease, diphtheria, did not at the time exist. That circumstance, together with the fact that in this part of our country diphtheritic conjunctivitis is exceptionally rare, rather pursuaded me that, perhaps, the patient was suffering from the effect of some unknown local poison. The local and constitutional symptoms determined the diagnosis. The treatment was simple, viz: Warm applications of a solution of the bichloride of mercury gr. 1 to ℥ii continued day and night; washing out the coujuntival sack with the same antiseptic, but diluted one half internally, five grains of quinine and thirty drops of the tincture of the chloride of iron. In two days the lids became soft enough to turn and the sanious discharge grew more purulent; then for the first time I could see the extent of the membrane. It almost filled the upper cul-de-sac and extended down over the eye ball until it reached the edge of the cornea. There was also a patch on the outer internal surface of the lower lid which did cover the lower segment of the cornea; otherwise the eye was not damaged, the free surface of the cornea being transparent. The treatment was continued until the membrane sloughed off and the discharge was purulent, then simple boracic acid was substituted for the sublimate. In three weeks the patient returned home well, but with little normal conjunctiva in the right eye. Every spot covered by the false membrane necrosed, so for some days the conjunctival surface was a mass of superficial suppurating ulcers.

CASE III—Herpes Iris Croupous Conjunctivitis.

Mrs. Anna B., a widow, age 27 years, a poorly nourished, slight and delicate lady; she never had enjoyed good health, but at no time had she suffered from any serious illness. About the middle of April, without any warning or prodromal symptoms, she broke out in a profuse eruption over her entire body, but more especially over the legs and feet, arms and hands. Her eyes became sore at the same time, and as she said, closed up so that she could not open the lids. In this condition some eight days after the outbreak of the disease, she entered the hospital under my care. When I first saw her she was covered from head to feet with a well-marked herpetic eruption, diffused over the body, but confluent on the soles of the feet and palms of the hands. In the center of each nodule was a purpuric spot which did not disappear on pressure. Where an early eruption had been the skin was stained dark brown and exfoliating; especially was this marked about the lower third of the legs and along the face of the tibia. The soles of the feet were each an enormous blister, extending from the top of the toes to, and over the heel. The same on the palms of the hands, but there the blisters were not so extensive. There was considerable itching and some constitutional disturbance. Dr. Knoche saw the case in consultation and pronounced the disease of the skin, herpes iris. More interesting, however, was the trouble of the eyes. The lids were closed and normal in appearance; they were neither swollen, red nor painful, and in no wise, so long as they were closed, was there any indication of inflammation in or about the eyes. The edge of the lids were dry, clean and without scabs. On separating the lids, which could only be parted about one-eighth of an inch, I found the conjunctival sack filled with a croupous membrane, which was adherent to both the lids and eye-ball. It was exactly as if one had poured into the conjunctival sack a fibrous coagulable fluid which filled all the space and glued the lids together and to the eye-ball. Without undue force I could only separate the lids a few lines, and then it was apparent that the membrane permitted the division by stretching. So intimately was this membrane adherent to the lids that it could not be detached without causing the exposed mucosa to bleed. By carefully tearing through the deposit with a probe, the cornea was exposed; it was found transparent and healthy; the iris normal in color and reaction. The membrane was not attached to the epithelial surface of the cornea, but from the conjunctival edge it extended over it, making a closed pocket, which held a few drops of a transparent fluid. The thickness of the membrane over the cornea between the edges of the lids was about one-eighth of an inch, otherwise it was so extensive that it was evident it could not be removed without tearing away the conjunctiva. My examination was made in the morning; by evening the opening I had made through to the eye proper was closed. This was a case of simple croupous conjunctivitis, remarkable insomuch as with such an extensive exudation there was not enough local inflammation to swell the edge of the lids. Beyond a lotion of carbolic acid in alcohol and cologne water to allay the itching, the treatment was expectant. It was useless to remove the false membrane, for in a few hours it would return. For a few minutes during the day the eyes were bathed with hot water which seemed to loosen the membrane somewhat, at times I would peel off the membrane from the lids, or better, peel off the lids from the membrane. It was useless; in an hour the exposed surface would exude a sticky, milky material which, in a short time would glue the lids to the eye again. Gradually, without any therapeutic interference the false membrane disappeared and the lids became attached to the eye-ball, so by the time the disease was gone there was no conjunctival sack at all. Appreciating the possibility of a permanent growing together of the surfaces in apposition, I would daily separate the lids from the eyes with a blunt probe; the epithelial being removed, but the basement membrane intact, there was no difficulty in the operation, provided the condition was not left too long; but the hemorrhage was always too profuse to permit a complete division of all the bands, especially in working in the upper conjunctival folds. In places, on the eyeball particularly, the diseased conjunctiva was easily torn, when there was danger of separating it from the eye which did in places happen. The disease lasted one month. The skin eruption disappeared and the eyes recovered their usefulness, although the conjunctival sacks were in some places permanently obliterated.

To the practical clinician these cases, I think, are of extreme interest, especially the last one. We all know that there are several conditions associated with croupous deposits on some of the mucous surfaces, also some drugs may cause a purely croupous inflammation, jequirity for example; but I know of no skin disease of an acute character in which croup is a complication. In my case there was apparently very little inflammation of the conjunctiva, yet we found an enormous exudation of a fibro-plastic material which simply stuck to the surfaces and did not penetrate deeper than the epithelial layer. In every sense it agreed pathologically with the laryngeal croup of the old writers so I cannot believe with some, that there is no difference between true croup and diphtheria. No informed physician could think that my female patient had a diphtheritic disease of her eyes, for in no sense whatever did it appear or behave like the case immediately before, wherein the inflammatory symptoms were most pronounced. Had this inflammation attacked her larynx and behaved there as it did on her eyes, she would have died in spite of any help, of true simple laryngeal croup.

Prof. Bokai, in the *Lancet*, advocates picrotoxin as an antidote for morphia and a preventive of chloroform asphyxia.

SOCIETY PROCEEDINGS.

JACKSON COUNTY MEDICAL SOCIETY.

KANSAS CITY, Oct. 11, 1889.

The society convened with Dr. Eggers, the President, in the chair; Dr. Ormsby, Secretary.

Dr. J. Wolf was elected to membership.

This being the annual meeting, the following officers were elected for the ensuing year: Dr. J. Wilson, President; Dr. J. B. Jones, Vice-President; Dr. A. C. Ormsby, Secretary; Dr. C. E. Clark, Treasurer; Dr. Joseph Sharp, Librarian.

Dr. W. F. Kuhn next reported a case in which a number of worms were taken from the nares of a man. The patient had suffered much pain, and had to be kept on morphine for some time before the true nature of the trouble was known. The size of the larva was three-fourths of an inch long and one-eighth in thickness, and weighed three grains. They were extracted by the use of a strong solution of carbolic acid. Thirty in all came away. A specimen was exhibited to the society. The patient recovered. He desired to know the name of the larva.

Dr. A. L. Fulton said the result in cure was a happy one, as these worms were doubtless Texas screw-worms, and were, so far as he could learn, very dangerous. He had learned that they were quite prevalent in stock in Texas during the hot summer months, but had seen them but once in the human being. The case was that of a man who had very bad nasal catarrh, with the disease extending into the frontal sinuses. He was called to see the man in consultation, and found him suffering excruciating pain in the nose and forehead. A large number of the screw-worms had been taken from the nasal fossæ. He trephined into the frontal sinuses and took out a number of worms. The patient died some twelve hours after he saw him. Death was doubtless due to the presence of the worms.

Dr. Von Quast had seen a case where the fly had deposited the egg in the knee joint and arvæ resulted. Also saw the same thing in a case of confinement with lacerated perineum.

Dr. Merriman spoke of Dr. Fee having seen and described them.

Dr. Hanawalt referred to a case where they had destroyed the septum of the nose. Many cases have been reported in the South.

Drs. Berger, Sharp, Ayres, and Jones spoke of having read reports of such cases.

Dr. Thompson said he had seen a number of cases in this city, in one of which they had made their way into the middle ear. He also had found them in the nostrils and maxillary sinuses, etc.

Dr. Bogie said he had seen the worms in Texas. A solution of salt water, or the ordinary brine, will destroy them.

Dr. Hal Foster said the last work compiled by Sajous, the *Annual of Universal Medical Sciences*, referred at length to this larva, and speaks of the bichloride of mercury treatment as the best.

Dr. Fulton said the sample shown was not as long and slender as those he had seen. This larva differs very materially from that which has been mentioned by most of the members to-night. It is not an ordinary worm, but is fearful in its consequences and rapid in its work. The pain is very severe, and is produced by the larva penetrating fresh tissues. It does not feed on decaying matter. Mild measures are of no use in the treatment. If they get into the frontal sinuses trephining should be done at once, and no time should be lost in killing them wherever found.

Dr. Kuhn said these worms were longer and more slender in the flesh state. He is convinced that they will soon destroy the life of a patient if left alone.

Dr. J. H. Thompson read a report of three cases, which is published in the current number of the RECORD.

Dr. B. E. Fryer in discussing the paper said that Wecker in his work makes mention of cases similar to the first one mentioned in the paper, but does not dwell sufficiently on its importance. It is a metastatic choroiditis. He had seen such cases during our late war. The second case he had seen with Dr. Thompsen. He also had seen a case with Dr. Morse, of Lawrence. The third case is rare in occurrence, and this one pursued an unusual course. It was more extensive and continued longer than such cases do as a rule.

Dr. Eggers, in retiring from the chair, made some remarks regarding the large increase of membership and the superior character of the papers. He suggested that papers be read on one evening and discussed at the following meeting.

After the reading of the reports of the Secretary, Treasurer and Librarian, the society adjourned.

SELECTIONS.

THE CEREBRAL LOCALIZATIONS.

Like the historian of nations, who, in the midst of wearisome chronicles of ceaseless war and monotonous change of dynasties, suddenly awakens to a high pitch of eloquence as he describes some wonderful work of man —whether it be the fabrication of a Bayeux tapestry or the discovery of a new continent— so will the future historian of medicine, in the midst of his long and tedious account of unsuccessful grappling with disease, suddenly cause his pages to glow with the fire of his own enthusiasm as he begins to describe the recent researches and discoveries made in regard to the cerebro-spinal nervous system. At last the very citadel of life, the residence of the divine intelligence itself, has been attacked, and it would seem that man need go no higher in his search after the mysterious unknown. The very sacredness surrounding the human intellect was the most potent cause of its own mystery in times past. Men thought and reasoned about its workings, but they never dreamed of looking in upon it during its activity in life. All sorts of notions were advanced and adopted as explanatory of the strange phenomena of mentalization, but not until within the last few years were they attributed to the united, harmonious action of several parts and areas of the encephalic mass, each of which has its own special function to perform. By the discoveries of the later day neurologists we have, instead the vain imaginings of the old metaphysicians about spirits and what not, the seat of the mental activities spread out before us like a beautiful mosaic, each minute part of which is absolutely necessary to the completion of the perfect mental picture.

But, after all, some will say, what is the practical value of all these charming discoveries? Can they be utilized in the alleviation of cerebral diseases, and when the attempt is made— as it has frequently been done—is not the rate of mortality almost equal to that of the diseases themselves? The knowledge alone is of inestimable value, were it entirely unavailable for practical purposes; but, fortunately, it is available, and though the results of cerebral surgery are not at first sight very gratifying, they are fast becoming more so. Men who croak over the beginnings of every advance in science are legion, and will always abound; but sooner or later they, with their croakings, are put to shame by the perseverance, earnest enthusiasm, and final success of those who, in the end, are the real benefactors of mankind. Who does not recall the early struggles of gynecology, its miserable failures, its bungling operations, and its final contest with ignorant, unprogressive detractors? And yet, where is the surgeon to-day who is not craving to associate himself with the brilliant successes that are being achieved in this department of medicine? Those who long ago scowled at McDowell and Sims, are now like to bring their great work into ridicule in their wild rush to follow where these bold spirits led, for, as has been aptly said: one would almost think, by reading modern medical literature, that woman had no organs outside of the pelvis. Such will doubtless be the experience of brain surgery before it has gained its highest successes; but in the meantime let the good work go on, and for the sake of humanity let it not stop until the very last atom of truth has been discovered and made available for the healing of the nations.

The most recent complete resumé of the subject is the paper entitled "Cerebral Localization in its Practical Relations," by Dr. Charles K. Mills, and read berore the Congress of American Physicians and Surgeons at Washington, September 19, 1889. In the early part of the present century Gall, Bouillaud, and Broca, located certain special functions, basing their views entirely upon clinical and pathological phenomena. Broca's speech center has remained undisputed to the present day. J. Hughlings-Jackson, in 1864, suggested that certain convolutions gave rise to certain movements which are under the immediate control of the mind. This suggestion was shortly followed by the researches of Fritsch and Hitzig, which settled to a certainty the truth of the localization theory, and gave immortality to their own names. Putnam and Braun, unknown to each other, were performing similar experiments, and arriving at similar results, in 1874. These investigators exposed the brain in the dog, and with the minimal current strength of electricity obtained certain definite movements. They then removed a slice of the cortex and, upon a reapplication of the current, obtained no response. Turning back the cortical flap and applying a slightly increased current to the surface, still intact, the same muscular contractions were produced. The separate researches of Weir-Mitchell, Burdon-Sanderson, Bartholow, Wood, Ott, and others, as well as the clinical studies of Sir Crichton-Brown, Spizka, Starr, Seguin, Park, and Macewen, had all tended to strengthen the theory of special cerebral centers. But it remained for Ferrier, Horsley, and Shäfer, who gave special study to this question, and who experimented with lower animals upon a vast scale, to not only establish the correctness of the localization theory, but to quite definitely settle the positions of the various centers. With a few exceptions of minor importance, the views of these observers are generally held at the present day. As with all new discoveries, so here there are opposing views. Goltz follows the teachings of Flourens, and believes that the encephalon is a *single uniform* organ, and that its component parts can only act as a whole. Luys and Munk side with Ferrier in clearly defining the areas of the brain, and so considering the organ as strictly a *composite* one. Others agree with Exner and Luciani in maintaining that there is an overlapping of the centers, so that while their positions may be indicated in a general way, they cannot be sharply separated one from another. This last view is largely based upon the fact that in motor paralysis, due to a lesion of some cortical center, there is an equivalent loss of sensation in the same part. But, as has been aptly argued, the paralysis itself would prevent any expression of pain, even did the animal preserve its sensibility; and furthermore, sensation, whether muscular or cutaneous, is a treacherous symptom at all times to base any reliable observations upon, for people feel differently at different times and under different circumstances. As Dr. Mills declares: "the neurologist and surgeon must, therefore, depend on motor symptoms alone in fixing the site for operation in cases in which motor symptoms are definite. When positive sensory symptoms are present, they should regard these as indicative of the extension of the lesion toward either the limbic lobe or the posterior parietal convolutions; or, the involvment of the fibers going or coming from these guyres in the corona radiata."

Without attempting to go more fully into the subject of localization, for the space of an editorial is far too short to do it, or even the many investigators of it, anything like adequate justice, we will say, generally, that the consensus of opinion places the sensory centers at the posterior and basal lobes of the brain; the motor above the Sylvian and along the Rolandic fissures, and the psychic in the anterior lobes. If man went about on all-fours, as the lower animals do, these centers would correspond pretty nearly to the relative positions of the sensory and motor tracts of the cord.

An interesting question just in this connection is the center for the higher mental faculties and the possibility of localizing the lesion in various forms of insanity. No doubt now remains but that the cortex is itself the organ of the higher faculties; and since mentalization is itself but the combined action of motor and sensory conceptions in the abstract, its seat is in all probability commensurate with the entire cortex. The cortical gray substance, however, is made up of a number of layers, and a few observations seem to faintly indicate that certain of these layers are concerned in the special acts of mentalization.

Dr. Theodore W. Fisher (*American Journal of Insanity* for October, 1889) well says: "The ideational centers have no immediate connection with the action of individual muscles. The will can only control and the mind is only conscious of movement in the mass. Ideation deals with movements as well as sensations in the abstract. As there is a sensorium where sensations are combined and co-ordinated, there is motorium, containing the organized residua of all past actions, ready to respond to adequate stimulus in any direction."

If the practical results of all this investigation upon cerebral localization were limited only to the cure of brain tumor—that most agonizing affection known to neurology—it would deserve the everlasting consideration of mankind. But relief has followed operations upon the brain, guided by localization, in cyst, fracture, abscess, hemorrhage and discharging cortical areas. Suffering has been mitigated and life saved. Even in circumscribed epilepsy the majority of operators consider the permanent paralysis following excision of a cortical area preferable to the continual epileptic attacks, Macewen notwithstanding. Even cases of insanity in which the lesion could be localized by the prominence of special symptoms have been benefitted and cured by operation.

Hence we may be proud of these late achievements of science. The flood of light thrown upon many obscure, so-called functional diseases, that used to be among the opprobria of medicine, has afforded us knowledge worth exulting over, and which will doubtless restore many a wretched victim of pain and misery to perfect or comparative ease and comfort. Neurology, aided by surgery, is rapidly becoming one of the most exact scientific departments of medicine, and out of exact knowledge we are justified in hoping for more exact and favorable results. —*L. H. M. in Times and Register.*

ANCIENT SURGERY IN GERMANY.

Ambroise Paré, who became a master barber-surgeon in 1536, and died in 1590, has been called the reformer of surgery, and the French claim in particular that their illustrious countryman was the first to apply the ligature to arteries. Professor Edmund Rose, in an address delivered before the "Freien Vereinigung Berliner Chirurgen" May 13th of this year, laid before the meeting a copy of a work dated 1497, by Jeronymus Brunschwyg, a Strasburg surgeon. On page 19 of this work is a colored woodcut of an operation room, with a description of various instruments then in use—the amputating knife and saw, various probes, needles in handles, small hooks for taking up arteries ("damit aufzuheben die Adern"), small and large spatulæ, bent to assist in drawing out the ligature ("die do Haar uss ziehen)", etc. Further on the whole *armamentarium* for the extraction of shots or pellets is given. It must be remembered that the arquebuss, the first form of gun fired by a trigger, first came into use about the middle of the fifteenth century. On page 51 are represented six simple trephining instruments.

Professor Rose is troubled because even in the latest edition of a well-read German surgical work Paré is still called "the reformer of surgery," whereas his surgery was still "barbaric" when other surgeons had made advances. His oxen with human heads are exactly the same as in Licetus. He was not the first to abandon the old way of treating gunshot wounds (namely, by pouring boiling oil into them), nor did he discover the ligature of arteries, or bring it into general use. Petit, himself a Frenchman, protested against this prevalent idea in the eighteenth century, and at the close of that century Mursinna, in Berlin, commended his way of controlling hemorrhage after removal of the mammary gland. A plug with a complicated dressing was fastened over each separate artery. Jeronymus Brunschwyg's own words run thus:

"Das ist, so du siehest ein Ader fast pluten, als an dem Hals die Giessader (carotid) oder ein verwundete Pulsader, dass du die Ader herauziehest mit der Nadel und dadurch stichest, und inter Nadeln die Ader verknüpfest mit dem Faden, der do in der Nadeln ist, und dann der Nadeln durchziehest. Und ein Stücklein Fadens an der Ader bleibt hengen, über etlich Tag verfuelet das ober Theil des Adern, und geht der Feden heraus." (That is, that when you see an artery bleeding fast, such as the carotid in the neck, or a wounded "pulse artery," you draw out the artery with the needle, and thereby penetrate, and tie the artery behind the needle with the thread which is in the needle, and then draw out the needle. And a small piece of thread is left hanging from the artery. After some days the upper end of the artery mortifies (decomposes), and the thread is detached. These words are plain enough; the man who uses them had evidently ligatured arteries himself.

As regards gunshot wounds, old Jeronymus Brunschwyg acted on the sound principal of extreme cleanliness. He spoke of poisoned arrows, etc., just as we, a few years ago, talked of "infected" wounds without any clear idea of wound diseases. He cleansed the wound with violet or linseed oil (occasionally camphorated), and expressly says "ein wenig gewärmt" (a little warmed). Thus, he did not advocate the use of boiling oil in such cases. Long afterwards Ambroise Paré omitted the use of this latter means of treating gunshot wounds on one occasion, and tells us that he could not sleep that night from anxiety for his patient's welfare. As to washing with goat's milk, this had already been recommended by Henrich von Pfolsprundt in his *Buch der Bündth-Ertznei*, published in 1460. The above fluids were evidently found to be antiseptic, or rather free from nocuous germs of their own, hence their proved utility on many a battle ground.

The unguentum elemi has been called the balsam of Arceus. We find the same balsam in Brunschwyg's work. Here it is spoken of as "that best of all balsams for recent wounds that can be had, and its like can hardly be found." And, again, "it almost makes flesh grow." But in another place, he inveighs against the indiscriminate use of "that Strassburg balsam, discovered about the year 1460, and now spread abroad throughout all Germany."

Refracture after faulty union of fractured ends of bones has been attributed to a Swabian surgeon of the name of Bosch, who lived in the middle of the last century. This also is bosh. Brunschwyg did the same thing; he either broke the bone across his knee, or laid the limb, enveloped in a cloth, across two supports, and trod on it with the naked foot. Extension was effected gradually by screws, that is in recent cases,—old ones were let alone, on the principle, as we are told, that it is "better to be alive and limp, than to die even with a straight limb."

"Window" bandages were recommended for compound fractures and wounds. A "doltdrank" was given sometimes to overpower a patient with sleep, so that incision might be made and a fragment of an arrow, etc., removed without pain.* The chief ingredient was opium. Ancient surgery in Germany, to judge of this work, had evidently arrived at a high pitch before Ambroise Paré was born.—*British Medical Journal.*

CRIMINAL RESPONSIBILITY IN DELIRIUM TREMENS.

It is somewhat remarkable that a recent decision of Lord Young on a charge of child murder by neglect and starvation—a decision unique in the annals of criminal jurisprudence —should have escaped public attention. In the past there have been a few acquittals and many convictions on similar pleadings; but Lord Young has created a new legal precedent by peremptorily refusing to allow the case to go to the jury.

At the last circuit of the High Court held at Glasgow, Elizabeth Short, wife of a sergeant in the Highland Light Infantry, was charged with culpable homicide. The indictment ran that, between July 6th and 11th, 1889, in the residence of her husband at Hamilton Barracks, she neglected to provide with necessary food, clothing, and nursing, her infant son, in consequence of which he died on July 11th, and was thus killed by her. Mrs. Bisset, wife of a color-sergeant in the same regiment, deposed that the prisoner was delivered of the deceased baby at the barracks on June 2d. On the 6th witness found the child small but healthy. On that day the accused was the worse for drink, and was so also frequently. At three weeks old the baby appeared to be falling back. One day, when the mother was very drunk, the baby was in a bad state and the house was very dirty. Though the child often cried, witness never saw the accused illtreating her baby. Mrs. McFarlane, wife of another sergeant, said that the prisoner's husband left barracks for the camp at Lanark; prisoner was drunk every day. When witness took charge of the child, it was in a filthy condition and ravenously hungry. Dr. Beith, military surgeon, testified that the child was small but healthy. On July 6th the mother was suffering from alcoholism, and on July 8th from delirium tremens. The house was very dirty. He had the child taken away, but it was afterward returned to the mother. A *post-mortem* examination showed that the child died from debility and ulceration of the bowels caused by starvation and neglect.

After the Crown counsel had contended that the charge of culpable homicide had been established, Lord Young, without calling on the counsel for the accused, said that no evidence had been adduced which would legally justify a verdict of culpable homicide. If a woman designedly withheld food and care, without which the child would not thrive, in order to injure the child, that would be a crime. But he denied that it was murder, culpable homicide, or any crime punishable by law in that court, for either a woman or a man to drink too much whiskey, or get an attack of delirium tremens, which was insanity. The mother's conduct was most reprehensible, and so was her husband's, who persisted in procreating children by a dipsomaniac, and leaving her to attend to them, though she was really incapable of such a trust. This was a case for moral reprehension only. Resolute efforts, not yet completely successful, were being made to induce the Government to provide for the compulsory treatment of such cases in suitable homes. In this case there was no intention to injure, and he must rule that there was no proof of any crime. The jury, therefore, returned a formal verdict of "Not guilty," and, at their request, the judge severely reprimanded both husband and wife.

This is the most radical action which has been taken by any judge in dealing with a charge of an alleged criminal offence complicated with delirium tremens, and it is a further development of a series of recent remarkable deliverances by our administrators of criminal law. Mr. Justice Day ruled "that whatever the cause of the unconsciousness, a person not knowing the nature and quality of his acts is not responsible for them" (Reg. *v.* Baines, 1886). Chief Baron Palles ruled that if any one, from long watching, want of sleep, or depravation of blood, was reduced to such a condition that a smaller quantity of stimulant would make him drunk than would do so if he were in health, then neither law nor common sense could hold him responsible for his acts. (Reg. *v.* Mary R., 1887). Baron Pollock ruled that if at the time an alleged murder was committed (though the prisoner had been a drunkard and had had delirium tremens) he had taken only such a quantity of intoxicating liquor as an ordinary man could take without upsetting his reason, an insane predisposition being the main factor, although the drinking of a small quantity of alcohol was the contributory cause, the plea of irresponsibility was good. (Reg. *v.* Mountain, 1888). These judicial utterances, capped by Lord Young's declining to send the case of Elizabeth Short to the jury, really portend a revolution in our criminal jurisprudence.

WILL THE TIME EVER COME?

As we have read the remarkable work of Mr. Edward Bellamy, "Looking Backward," we have felt a certain pride that the chief spokesman is portrayed as a physician. We are not to infer that this was the chief idea of the writer in making this selection, but there is, nevertheless, conveyed a delicate compliment in the choice. We should feel a certain degree of disappointment did we believe the character of Dr. Leete to be purely an ideal one for the present age, for it is our firm conviction that some of the most noble men alive to-day are engaged in the practice of medicine. They may not be taking a prominent part in discussing social and industrial problems, but they come in contact with all sorts and conditions of men, and can make no small contribution to the data which form the basis of such discussions. It is no wonder, therefore, that Mr. Bellamy has chosen the medical calling as the one to be followed by his exponent of the ideas of one hundred years from to day.

It is very easy to follow out in imagination another chapter along this line of altruistic development. We can imagine Dr. Leete telling Mr. Julian West how hospitals, dispensaries, and medical societies were managed in the times in which he lived. There will be no code, for all men will be properly educated, and be gentlemen. With perfect confidence does the family practitioner refer his patient to the specialist, well knowing that the latter will send him back again, with diagnosis stated and a line of treatment suggested. There will be no rivalry to be appointed physician to the new hospital, for each one chosen will offer to resign in favor of his unsuccessful competitor, and the only possible embarrassment will come from the excess of self-abnegation. The occupation of the consequential and patronizing hospital manager will be a lost art. Contributors to medical journals will never write on both sides of the paper, will never send their manuscripts rolled up, nor desire reprints and extra copies, and will wait their turn for publication. Their thoughts will be condensed, and their great aim will be to say as much as possible in the fewest number of words. As all men will be educated, and the private research of each be made public property, the opinion of the retiring, common-sense, professional neighbor will be as worthy of at least as courteous a reception as that of some unknown Herr Professor, with an unpronounceable name, from the middle of one of the southern provinces of Austria.

Also, physicians will be represented on the governing boards of what few medical charities may remain, for the new industrial system, with its consequent abolition of poverty, will render them entirely unnecessary. The dispensary "rounder" will rival the mound-builders as an effete historical curiosity. The "able-to-pay patient" will have been evoluted out of existence, and while the supply of clinical material may be disappointingly small to some of our great men, the comfort of the rank and file of profession will be greatly enhanced. State examining boards will exist everywhere, and the so-called generous and unselfish rivalry between the few medical schools that are then needed will cease.

We will not enlarge on this theme, nor can we promise that the elixir vitæ, or, as our Western contemporaries call it, the Methuselah Cocktail, offers any prospect of our being enabled to live till the Golden Age.

But, seriously, when one comes to read Mr. Bellamy's book, he realizes how sadly the times are out of joint, so far as social and industrial questions are concerned. His illustration of the stage-coach in the opening chapter is grim, but most sorrowfully truthful. His Utopia does not seem by any means a purely imaginative one, though the very antipodes of the present age. "Looking Backward" should be read by every physician. It shows one's general social duty, regardless of his calling. It contains a warning for the thoughtless rich, and a promise for the unfortunate but honest poor. To every reader will it suggest new thoughts, and in everyone inspire new hopes and loftier ambitions. The author's idea of "nationalism" may be chimerical, but his motive is praiseworthy. *Medical Record.*

THE HOME TREATMENT OF CONSUMPTIVES.

Sad indeed is the outlook for the consumptive who is unable to seek a change of climate when that of his home is not suited to life out of doors. So uncertain are all means directed to the local treatment of pulmonary tuberculosis, even Weigert's hot air inhalations, that the greatest hope of arresting the disease lies still in its proper climatic management. By far the largest number of consumptives, however, is compelled to forego this change of recovery and rely upon the physician and nurse. In only too many instances the former falls into a dreary routine born of hopelessness, while the nurse is but too often an ignorant, inexperienced, though loving member of the family. This is deplorable. If for good and sufficient reasons the doctor does not resort to expensive local measures, but is satisfied if he can merely ameliorate the patient's condition and prolong life, he should at least manage the case intelligently and conscientiously. It is safe, probably, to assert that the average practitioner employs means to mitigate symptoms which in the end defeat the object aimed at. For example take the cough. This is often most harassing and the cause of the sufferer's chief complaint. What is usually given to relieve it? A cough mixture, generally a cough syrup containing opium or one of its alkaloids. The cough is mitigated, but at the expense of the stomach. The best and safest measure addressed to the relief of the cough of phthisis in its later stages consists in the use of respirators charged with volatile substances. R. Douglas Powell states it forcibly when he says: "The effect of such inhalations is to relieve cough and to lessen expectoration, and there can be no doubt that, as I believe to be the opinion of Dr. Coghill, who has so ably advocated their use, one of their chief functions is to do away with cough mixtures; for certainly the cough linctus treatment of this eliminative period of phthisis, by lulling cough and deranging the stomach, is the very worst that could be devised." In the early stages, when inflammation is active, Jaccoud insists on the benefit to cough to be derived from presistent counter-irritation over the affected parts. At all events it should be a rule to avoid the administration of opiates except, it may be, in cases of suffering from laryngeal complications.

Another routine prescription is that of atropine for night sweats. This is all right when they are exhausting and cannot be controlled by simpler or more agreeable means; but it so often produces sleeplessness and restlessness, and the sweating is so often less than is represented, that a little thought on the part of the doctor will discover some efficient and more desirable remedy.

How now is it with the nursing of the consumptive? Alas! In most cases the attention bestowed by mother or sister is fraught with such a degree of solicitude as defeats its own ends. More intelligent nursing and firm enforcement of salutary orders, with less enervating *coddling*, would be far better for the invalid.

The principle of treatment of all consumptives should be, the least medicine possible and the greatest possible nourishment. Both physician and nurse should comprehend this and work together for its accomplishment. The consumptive's stomach is sensitive already and loathes the very thought of *ingesta* of any kind. Then why increase it by drugs and particularly opium?

The wisest treatment of the phthisical sufferer is to be found in his simplest and most natural management. The physician should bestow his thought upon the most suitable kinds of nourishment, modifying these as the state of the case varies. He must not content himself with issuing the vague instruction to give anything the patient can eat. Thought is necessary. At first force upon the system all the nitrogenous food it can be made to assimilate by help of fresh air and judicious exercise. But when hectic is consuming the frame and the supply of oxygen is small by reason of extensive structural loss as well as inability to exercise, then to overload the system with such food is but to heap fuel on the flames. At such a time a readily oxidizable non-nitrogenous dietary is indicated. While the physician is thus thoughtfully superintending the character of the food, the nurse should be studying how to successfully tempt the capricious invalid to take the nourishment. In the skilful preparation and dainty serving of the viands there is ample room for the nurse's ingenuity. In all other matters pertaining to the *art* of nursing, in short in the hygiene both of the patient's person and surroundings, intelligence even more than affectionate solicitude will minister to the comfort and prolong the life of the consumptive.

Meanwhile the welfare of the home circle should not be sacrificed to the care of the invalid. Strict antiseptic and prophylactic measures should be carried out. The health of the well members of the family is of no less importance than the care of the sick!

It is beyond the scope of this article to detail the proper management of consumption, its aim is only to emphasize the fact, although medical skill has not yet found a means of successfully coping with consumption, much can nevertheless be done by a wise, not by a routine, direction of the home-treatment of phthisical patients.—*The Journal.*

"MARASMUS" AND OTHER VAGUE CAUSES OF DEATH.

At the last day's session of the American Public Health Associaton meeting, at Brooklyn, Dr. Ashmun, of Cleveland, inveighed against the practice of some physicians who employ the term "marasmus" to cover a great variety of causes of death among infants. Statistics are of little value where even a few practitioners, in any given community, consent to this vague form of certification. "Marasmus" under those circumstances has no pathological relavence, and means little more than the child ceased to breathe. The reports of institutions are, in too many cases, robbed of their utility to the student of the causes of infantile mortality by the evasion and omission of the true causes of death. The root of this evil may lie either in indifference, in carelessness, or in a desire to conceal; but, whatever the motive, the result is one and the same so far as concerns every scientific purpose and pursuit. It was alleged at the meeting above referred to that ignorance was another occasion for this and some other mischevious forms of certification. One speaker went so far as to say that there were professors in our medical colleges whose teachings tended to promote vague pathological ideas and a slip-shod use of terms. If the teacher himself has not advanced beyond the "marasmus" period in pathology, it is unreasonable to expect precision and definiteness of expression on the part of those who are taught by him. And so the evil maintains itself for years, and is spread. "The profession itself needs enlightenment" was the sentiment of more than one of the speakers on the occasion referred to; a keener intelligence on the part of the profession in these matters is a prerequisite to the profitable study of "the great American plague"—namely, the loss of children under five years—by associations or by individuals, on the Federal census or the annual reports of asylums or maternities.

In conformity to this sentiment, the newly appointed special committee on infant mortality in the Public Health Association was proposed to be one whose work should extend over a number of years and might not be reported upon under three years, and even then might take the form of a report of progress. One result may be expected from the initial work of the committee; that it will early show to the profession the indispensable need which exists, in regard to the profound study of this subject, that the certifying members of the profession shall truly, clearly, and fully designate the causes of death in infants as well as in adults. The Health Officer of the port of New York spoke in this discussion of the duty devolving on officers of registry, in boards of health, of refusing to accept certificates of physicians who habitually resorted to such vague expressions as marasmus, infantile asthenia, atrophy, debility, or cardiac sincope, which mean little more, to writer or to reader, than that death had taken place. This view puts upon the registry departments of our boards of health a responsibility which is altogether new to some of them, the opinion of some registrars seeming to limit them to a slavish adoption of whatever cause may be specified to them by the practitioners. We call to mind a singular instance of this, where an official permitted "cholera infantum" to stand in his tables through the whole of the winter quarter, because one or more physicians had chosen to adopt that expression as synonymous with entero-colitis or infantile diarrhoea. The "throwing out" of certificates of death is not the pleasantest duty of the health officer, and, if performed without tact and judgment, may become exceedingly unpleasant, but it is nevertheless a duty that should not be shirked or overlooked. —*N. Y. Medical Journal.*

Hurried Dinners.—When a crude mass of inadequately crushed muscular fiber, or undivided solid material of any description, is thrown into the stomach, it acts as a mechanical irritant, and sets up a condition in the mucous membrane lining that greatly impedes, if it does not altogether prevent, the process of digestion. When the practice of eating quickly and filling the stomach with unprepared food is habitual, the digestive organ is rendered incapable of performing its proper functions. Either a much larger quantity of food then would be necessary under natural conditions is required, or the system suffers from lack of nourishment.

The matter may seem a small one, but it is not so. Just as a man may go on for years with defective teeth, imperfectly masticating his food, and wondering why he suffers from indigestion, so a man may habitually live under an infliction of hurried dinners and endure the consequent loss of health, without knowing why he is not well or how easily the cause of his illness might be remedied.—*Medical Classics.*

AUTOMATISM IN MEDICINE.

Not long since there was published in Glasgow a collected series of papers and addresses on the Physician as Naturalist, by Dr. William T. Gairdner, in which many strong arguments favoring a broader education and higher mental training for the medical student were advanced. In an admirable address, delivered at the opening of the Medical Department of the Yorkshire College, Leeds, and published in the *British Medical Journal*, the same author presents his views under the head of a plea for thoroughness, and from a somewhat different standpoint.

We have all had our laugh at the "automatic doctor," invented and patented by some ingenious Dutch apothecary. By dropping a nickel in the slot situated where the pain or ailment is located, a pill or two will be shot forth, by the taking of which the patient will be entirely cured. Such an apparatus would be a most convenient consultant, for whether the patient were suffering from colic, neuralgia, hemorrhage, stomach-ache, liver complaint, cough, or rheumatism, he would merely have to drop his nickel and receive the appropriately-labeled drug. without having to be embarrassed with questions and examinations. We smile at the novel absurdity of the idea, and yet, both the idea and the smiling are the very escence of sarcasm itself upon a large part of the medical profession. The extent to which automatic diagnosing and prescribing are carried by a large majority of physicians, is doubtless the explanation of the possibility of such a conception as an "automatic dorp-a-nickel in-the-slot doctor." The bitterness of the satire is made even more stinging by the fact of its having originated from an apothecary, who has probably had a large experience in reading the average run of medical prescriptions. So automatic are we becoming, nowadays, that books of brief reference, cramped compends, and countless formularies are literally poured out by the medical presses, and pass through large numbers of editions. Loud is the cry for medical *facts*, and in our colleges and universities there is a set of men who would have nothing taught but facts, just as though there was nothing left still undiscovered and worth studying. The brain-wearied students are compelled to look to mere digests and compends in order to cram their memories with a quota of these innumerable facts. They have no time to stop and think, and hence they have no appreciation of the whys and wherefores of these facts. They graduate, and at once begin practicing with facts: and if summoned into the presence of an anomalous case, they will give it a name, and then resurrect from ther exhausted memories some appropriate prescription, which they may have heard from the lips of their preceptor or professor.

As the young medical man grows in years, and as his practice increases, his hurry to get from one patient to another will not permit him to take time enough to study each case by itself, and so he must needs make rapid diagnoses, usually ordering, at the same time, one of his old favorite automatic prescriptions. Such doctoring gives pith to Voltaire's well-known sarcasm, that the art of medicine consists in putting a number of drugs, of which one knows little, into a body of which one knows even less.

All this begets habits of loose observation and study. Terms are used to describe diseases which mean nothing, or at least are of doubtful utility. Dogmatism and positiveness are palmed off for absolute knowledge, and medicaments are ordered, often upon the strength of one or more prominent symptom which, in reality, may have nothing to do with the disease itself. Biliousness, myalgia, neurasthenia, irritation of the mucous membrane, are all so charmingly vague that the temptation to diagnose and prescribe for them is well nigh irresistible. It is so easy to seize upon a symptom or two and call it a disease; it seems so learned to be quick in recognizing a trouble and ordering for its treatment. The evil is common enough in private practice, but alas! what shall we call it when we see it in dispensary work, where twenty or forty patients are run off in an hour? Here automatism has its broadest field for development, and though the temptation to make loose, slovenly diagnoses is great, the danger of the habit once formed is still greater. A dispensary service, like a preceptorship, may be of inestimable value to a student; but it is likewise liable to be a lifelong injury.

The whole tendency of modern life is towards automatism. The struggle for mere existence is becoming sharper day by day. The minute sub-division of labor is rendering us more and more machine-like, with a capacity for doing one thing perfectly, but only one thing. In some respects this is desirable; hence, the tendency in our educational methods is to narrow down to details and to mould men into mere automata. In science and the mechanical arts, dexterity in minutia will always command a higher reward than broad knowledge and general capability. But medicine is more of a liberal art than a science; no one prescription will exactly suit every case of a cer-

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The cutting short or strangulation of many acute diseases, while as yet in their incipient or formative stages, has not been sufficiently appreciated. That this is possible, the medical literature of the day affords ample evidence; but to accomplish it, treatment must be both scientific and energetic, *i. e.*, must be based upon the physiological action of drugs and upon the action of reliable medications.

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FERRI ARSENIAS	1-65 gr. (1 milligram)	Med. prop.—Tonic, Alterative.
HYDRARGYRI IODID. RUB	1-65 gr. (1 milligram)	Med. prop.—Alterative.
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KOOSINE	1-65 gr. (1 milligram)	Med. prop.—Anthelmintic.
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Administer one teaspoonful in half a glass of water. Drink while effervescing. In Diurnal Epilepsy, take a dessertspoonful three times daily until sense of taste is partly destroyed; after this reduce the frequency of dose, but keep the fauces in a benumbed condition.

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DOSE.—A heaping teaspoonful of the salt, containing 1 gr. Citro-tartrate of Iron and 20 grs. of Soda, to be taken in a glass two-thirds full of water and drunk while effervescing. If a more decided effect is desired, warm instead of cold water may be used. In all cases this draught should be taken but once or twice a day, and then on an empty stomach, preferably before breakfast. No restrictions as to diet. One or two Pil. Digestiva (W. & Co.) may be taken at noon, before eating as a dinner pill.

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This combination is very useful in relieving various forms of Dyspepsia and Indigestion, and will afford permanent benefit in cases of enfeebled digestion, where the gastric juices are not properly secreted.

As a dinner pill, Pil. Digestiva is unequaled, and may be taken in doses of a single pill either before or after eating.

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EACH PILL CONTAINS

Sulphite Soda, ... 1 gr.
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Dose—1 to 3 Pills.

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EACH PILL CONTAINS

Sulphite Soda, ... 1 gr.
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tain class of disease; no two patients are exactly constituted alike, nor will their systems always respond alike to the same remedy. In educating young men for the profession, therefore, it is the intellect, the powers of observation, and the capacity for reasoning, that need to be trained. It is better that the student should see one case only and learn to reason about it for himself, than that he should see a hundred and merely know that it is such a disease, and, according to his text-books, requires such a remedy.

A physician whose knowledge amounts to no more than this is in continual danger of committing the grossest blunders. The human brain is not a store-room, merely into which a mass of facts is to be packed away; it is something capable of the highest volition, and must therefore be trained to will and to act by itself most judiciously. . As Dr. T. Clifford Allbutt, a high authority, has said: "A man whose mind has been enlarged and strengthened by a university course will, after a briefer drill, make a more skillful practitioner than one whose technical craft is gained by routine, and is not vitalized by a comprehension of principles." This author has been one of the eminently successful men in medicine, and yet he says that he used to read three books to enlarge his *medical* mind, namely, Grote's *History of Greece*, Gibbon's *Decline and Fall*, and Mill's *Logic*. If we wish, therefore, to avoid turning out automatic doctors from our colleges, we must broaden their education, strengthen their natural powers, and keep clear of the temptation to cram them full of details. We must away with the folly of attempting "to make our education more comprehensive by shutting up our students with individuals, to strengthen their reasoning powers by therapeutical drill, to substitute the ideas of the middle-class parlor for the traditions of a university."

Medicine, like pure art, cannot be practiced by rule; this is the fundamental fallacy of all so-called "schools." It demands the readiest wit, the keenest judgment, the profoundest reasoning, the strongest memory, and the most determined will. Failing any one of these a man is incompletely fitted for the most perfect practice of the art; failing all, he becomes a mere automaton, not made of wood and iron and turned by a crank, but scarcely much more, manifesting the stupidity of a mere vegetable life, and set into motion, as it were, by the formula and set facts pumped into him by others. If we would avoid the shame of that travesty upon the medical profession—"the automatic doctor"—we will avoid, in our methods of education, turning out automatic doctors, and becoming such ourselves.—*Times and Register.*

PTOMAINES.

Among the recent advances in chemistry, none has been more full of interest to the pathologist than the strides made in our knowledge of the ptomaines and allied alkaloidal bodies. Numerous workers in this country and on the Continent are continually publishing fresh researches on the subject, and there is every indication that new and important discoveries may be expected in the future. The word ptomaine has, however, been used in different senses. Selmi applied it to those products of putrefaction which give the reactions of plant alkaloids, and have more or less of a poisonous action. Brieger, who was the first to obtain pure crystalline products from the syrupy extracts of previous investigators, found that the bases isolated from putrefactive mixtures are less poisonous than those produced by pathogenie bacteria; he therefore termed these latter poisons "toxines," restricting the term "ptomaines" to the alkaloidal products of ordinary putrefaction. The toxines include those powerful poisons which he has named "tetanine" and "typhotoxine."

Further investigation showed that the products of metabolism of the higher organisms were not in general different from those of bacteria, and that poisonous alkaloids occur during life in the most highly-organized animals; choline and neurine had thus to be included among the ptomaines, and, later still, secondary toxic products of a simpler chemical constitution, such as methylamine, dimethylamine, etc., came under the same heading. The term "leucomaine," introduced by Gautier, is now very generally applied to the class of poisonous bases which is produced in the tissues of living animals by metabolic processes.

An important class of ptomaines are those which are termed "diamines," according to their chemical constitution. They are probably formed by oxidative processes from the monamines, and are found in small quantities in substances which have undergone very prolonged ordinary putrefactive decomposition; but what lends especial interest and importance to them from the pathologist's point of view is the fact that in cultivations of the cholera bacillus and of the Finkler-Prior vibrio they are readily formed in large quantities. It is exceedingly probable that in these substances Brieger is on the track of the true poison produced by bacterial energy in cholera. He has at present particularly studied two diamines, to which he has given the names "putrescine" and "cadaverine." Putrescine, to give it its chemical name, is tetramethylene diamine ($C_4H_{12}N_2$), while cadaverine is pentamethylene-diamine ($C_5H_{14}N_2$). This latter substance has a strong and characteristic odor; it is, in fact, the odour of cholera stools. When the diamines are injected into the circulation they produce symptoms (hæmorrhages and ulcerations) similar to those that occur in cholera; the muscular cramps and other prominent symptoms of that disease are doubtless produced by other toxines which have not yet been separated.

The investigation of diamines has been by no means exclusively carried on by Brieger, and among others the researches of von Udránszky and Baumann demand special mention. They have recently published their results in a highly interesting and suggestive article in Hoppe-Seyler's *Zeitschrift für physiologische Chemie.*[1]

In a case of cystinuria which was under their observation for more than a year after the removal of the calculus, the patient continued to void cystin crystals throughout the whole period. But the remarkable feature of the case was that during this time also the urine contained abundance of diamines; both cadaverine and putrescine were separated by chemical methods in a crystalline form, and the penta-compound (cadaverine) was always the more abundant.

Dupré and Bence Jones were the first to separate an alkaloidal substance from urine. Since then the question has been often discussed whether the ptomaines formed by putrefaction in the alimentary canal are partly reabsorbed and excreted in the urine. Leaving out of account creatinine, there has been, however, up till now, no satisfactory evidence that poisonous alkaloids occur in normal or pathological urine. In spite of this failure to isolate such toxic agents from the urine, many authors have not hesitated to assume that they occur, but have hitherto eluded detection. This assumption is, however, no longer necessary, for in a masterly research Stadthagen[2] has settled the question by showing that the poisonous substances in urine are inorganic potassium salts.

Diamines, certainly, are absent in normal urine; they are also absent in cases of acute and chronic cystitis, and in the urine of patients suffering from scarlatina, diphtheria, typhoid, pneumonic phthisis, and other suppurative processes. The urine and the blood of dogs and other lower animals are also free from diamines.

The case of cystinuria recorded by von Udránszky and Baumann does not stand alone, for in two other cases Stadthagen and Brieger[3] have found diamines in the urine.

Cholera and cystinuria have thus one circumstance in common, the formation of diamines, and in both diseases von Udránszky and Baumann consider there is but little doubt that they are formed by the agency of microbes. The fæces of their patient were examined, and though cystin was absent, about half a gramma *per diem* of the diamines was obtained; here, however, the tetra-compound (putrescine) was by far the more abundant; that is the opposite to what was found in the urine. This result, however, was not wholly unexpected, and is certainly a strong confirmation of the view that the poisons are produced by bacterial agency; for Brieger showed that when diamines are produced, first pentamethylene-diamine, and in the later stages of decomposition tetra-methylene-diamine are formed. The penta-compound is here no doubt produced in the small intestine, absorbed in great measure, and then excreted in the urine; the tetra-compound is not formed until the large intestine is reached, and so is found in greater abundance in the fæces.

Diamines are absent in normal fæces, and in the stools of patients suffering from intestinal obstruction, typhoid fever, tuberculous ulceration of the intestines, and a large number of other diseases. Brieger and Stadthagen found them, however, in their two cases of cystinuria. So that, both with regard to urine and fæces, the three cases are identical.

The question will, however, inevitably arise, How is it that these diamines give no characteristic odour to the intestinal contents, and produce no local action on the intestinal wall? This difficulty von Udránszky and Baumann do not at present feel able to answer fully; more information is still wanting as to the quantity of diamines present in cholera, and researches on the effect of feeding animals on diamines are in progress. It is, however, probable that the bases are more greatly diluted by the urine and fæces in cystintria than in cholera, and also that the bases are not present in the free condition but in combination. This latter view of the case is supported by the fact that both urine and fæces have an acid reaction.

Estimation of the amount of ethereal hydrogen sulphates in the urine of the same patient showed that their amount and relation to total sulphates were approximately normal. The amount of the ethereal sulphates in the urine is the best criterion we possess of the amount of putrefactive change occurring in the body. Thus, though there are no direct bacteriological observations, the conclusions which von Udránszky and Baumann draw from purely chemical experiment appear incontrovertible. These conclusions are, first, that the diamines are produced by bacteria, and, secondly, that the bacteria which produce the diamines are not those which cause the usual putrefactive changes in the alimentary canal.

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[1] Vol. xiii, p. 562.

[2] *Zeit. klin. Med.*, xv, Parts 5 and 6.

[3] *Archiv path. Anat.*, cxv, Part 3.

Certain other deductions, however, made by these two observers we are not at present prepared to accept so fully. They say that if the formation of diamines in the alimentary canal of patients suffering from cystinuria is found to be constant it may ultimately turn out that cystinuria or diaminuria is like cholera, though to a less degree, an infectious disease. Although this suggestion is full of interest and likely to stimulate further investigation it must, we think, be patent to all that the evidence in its favor is as yet inconclusive, and the verdict must remain for the present "not proven."—*British Med. Journal.*

PLACENTA PREVIA.

One of the most difficult and trying positions in which the young and inexperienced accoucheur can be placed, is at the bedside of a woman from whom the life-blood is rapidly escaping through separation of a portion of the placenta, when attached to the lower third of the uterus, and generally caused by the expansion of the neck, and dilitation of the os.

If his attention has not been previously especially directed to this fortunately rather unfrequent occurrence, he finds himself at no little disadvantage in deciding what course to pursue, and extremely liable to error in practice, or becomes totally inadequate at the very time when his knowledge and skill should be effective in saving the life of the mother, and possibly the child.

Within the last thirty years the fatality attending placenta previa has been reduced from 30 per cent to 5 per cent by the early removal of the uterine contents, the improved methods adopted in inducing premature labor, and the general antiseptic treatment, during and subsequent to the delivery. It has long been a question among experienced accoucheurs whether it is advisable to pospone delivery till labor sets in spontaneously, if at all possible to control or stop the hemorrhage from time to time, or to induce labor and deliver as soon as any considerable flowing has occurred, and placenta previa is clearly diagnosed.

In later years the general concensus of opinion among most experienced authors is, that we should, rather than assume the greater risk of the expectant plan, proceed at once to induce labor and empty the uterus, no matter at what point of pregnancy hemorrhage from this cause supervenes. The methods available to restrain or stop the flowing, all depend on pressure, by the trampon primarily till the os is sufficiently dilated, if not already large enough to admit one or two fingers. Then the placenta should be separated from the uterus as far as can be detached by one finger; expansion of the os should be induced by the fingers, thereby bringing on contractions of the uterus. If now the uterine action is ineffective to produce sufficient pressure of the head, and the foreceps cannot be applied to keep the pressure continuous by moderate traction, so as to stop the flowing, the medical attendant should at once press up the hand either at the margin of the placenta or through the placenta, if centrally located, and resort to version, drawing down the leg, and making a breech presentation. If the os be too small to introduce the hand, turning by combined version must be attempted. With a leg through the os, and the breech well down, flowing is effectually prevented. Then we can safely wait for the natural contractions of the uterus to expel the child, and secundines, assisted possibly by gentle traction on the leg.

In this connection the following rules recently laid down by Braxton Hicks, as embodying the ideas of the most practical and skillful accoucheurs of our day, will be important.

1. After diagnosis of placenta previa is made, proceed as early as possible to terminate pregnancy. 2. When once we have commenced to act, we are to remain by our patient. 3. If os be fully expanded, and the placenta marginal, we rupture the membranes, and wait to see if the head is soon pushed by the pains into the os. 4. If there be any slowness or hesitation in this respect, then employ forceps or version. 5. If the os be small and the placenta more or less over it, the placenta is to be carefully detached from around the os; if no further bleeding occur we may elect to wait an hour or two, but should the os not expand, and if dilating bags are at hand, the os may be dilated. If it appears the forceps can be admitted easily, they may be used, but if not, version by the combined external method should be employed, and the os plugged by the leg or breech of the fetus; after this is done the case may be left to nature, with gentle

assistance, as in footling and breech cases. 6. If the os be small, and we have neither forceps or dilating bags, then combined version should be resorted to, leaving the rest to nature, gently assisted. 7. If during the above maneuvres, sharp bleeding should come on, it is best to turn by the combined method in order to plug by breech. 8. When hemorrhage occurs before the end of seventh month, version by the combined method, no force following is the best plan.—*Canada Lancet.*

THE VALUE OF BEEF-TEA AS A NUTRIENT.

This is an age of iconoclasm, not only in the spiritual world but also in medicine. The man who a few years ago, would have had the temerity to question the value of beef-tea as a food, would have been looked upon as a fit subject for an insane asylum, by a majority of the profession. And indeed it is by no means certain that even yet there does not exist in the minds of not a few medical men, the idea that the ever-popular and ubiquitous beef-tea is the sheet anchor in those diseases attended by failing strength and imperfect powers of nutrition. To say that the medical profession as a whole is educated up to the point of believing beef-tea to be almost useless as a food, would be, we fear, to take too optimistic a view of the scientific attainments of that profession. While this belief obtains in the minds of some medical men, it is almost universal with the laity, and the good neighbor who makes and carries to the patient a bottle containing the strength of two pounds of beefsteak, is firmly convinced that if the sufferer does not gain strength from that decoction, he will not from anything else, and that, whether acting in the capacity of neighbor or nurse, she has done all that can be done in the way of alimentation. How few people but look surprised—and something more —when the physician tells them that their much-loved and always trusted beef-tea is a delusion, as to its alleged properties as a food. Indeed that idol is not so easily thrown down, and the physician's *ipse dixit*, notwithstanding, the worshippers will still offer it a willing and not half-hearted service, not infrequently to the detriment of the patient and to the serious interference with the physician's plan of treatment. For if beef-tea be smuggled in to a patient and he is buoyed up by frequent libations to this goddess, early in fevers and other wasting diseases, he is simply placed in the position of one who uses up his capital before the financial crisis comes, and when the dread day is at hand, he has no bullion to meet the run on his bank. The beef-tea has assuredly made him feel better at the time, as indeed whiskey or brandy would have done with less ulterior harm, but has wasted his force by unlocking it and rendering it potential, without adding anything appreciable in quantity, or at all commensurate with the amount needlessly squandered by the exhibition of the *stimulant*, unwisely given in the belief that it is a food or force producer.

Patients and their friends cannot be expected to understand this matter, but it is the duty of every practicing physician to make himself acquainted with the true value of this much vaunted and entirely over-estimated remedy, and by a clear understanding of the place it really occupies, to be able to so impress his clientele, that a new order of things may be introduced in this matter. We must educate our patients in a great many directions, and we believe that in none is there more need for a hearty belief by the people at large, than in the inutility of beef-tea as a *food*.

It would render this article too long to give the chemistry of this compound and to demonstrate the facts stated above, but in our next issue we shall undertake to do so, in order that our readers may have a reason for the faith that is in them, if those who still hold out for beef-tea will be convinced.—*Canada Lancet.*

TREATMENT OF ASTHMA.

Within a recent period we have noticed in our exchanges many articles on the treatment of asthma. As to the remedies recommended for this disease, there is no end. With no intention of deprecating the value of several old and well-tried remedies, we shall now only refer to agents which have recently forced themselves to the foreground. Of these perhaps citrate of caffeine stands first. The dose is 1 to 5 grains dissolved in warm watter. It does not appear to be a very dangerous agent, since, in one instance, a patient took 60 grains by mistake, without fatal consequences. Caffeine is said to afford very prompt relief. Arsenic, in the form of 2 or 3 minims of Fowler's solution, is reported as making striking cures in appropriate cases. Arsenic has the peculiar property of supporting respiration, as, for example, in making ascents. Its beneficial effect in asthma is no doubt due to this property. Iodide of potassium is sometimes combined with Fowler's solution. A valuable combination in the bronchitic form its iodide of potassium and carbonate of ammonia. Chloral hydrate, either alone or in combination with bromide of potassium, is also followed by excellent results in certain cases. Cocaine in doses of 1/6 of a grain of the muriate, given in the form of tablets, has been very highly recommended for the relief of the spasm. In the form of stagnant respiration with congested lips and nose, and cold extremities, strychnia has been found highly useful. The liquor may be given in doses of from 3 to 5 drops with dilute phosphoric acid. When defluction from the mucous surface is very profuse, belladonna probably answers best. Medium doses should be given every four hours. Grindelia robusta a short time ago was largely used; but failed to come up to expectations, and is now much less used. Quebracho is also a remedy in much repute.

We occassionally meet cases of coutinued distress despite the use of ordinary means. In these cases there is usually much bronchial tumefaction and dryness. In cases of this class nothing can equal ¼ grain of pilocarpine with ¼ grain of morphine, administered hypodermically. The relief is prompt, the tumefaction subsides, and is followed by profuse expectoration. As to change of climate, experience shows that the asthmatic should not seek a dry atmosphere. A warm, moist atmosphere is the most suitable. In mild cases a mere change from one locality to another may create immunity from this harassing trouble.

The remedies here mentioned, which are culled from a large number of remedies in use, seem to be the ones most relied on at the present time. It must not be understood that the remedies in this list are to be depended upon in symptomatic asthma, when the condition is merely a symptom of a disease usually of a much graver nature. The bronchial muscles are here in a normal condition, some probably serious organic trouble being the cause of the symptom, and requiring a separate treatment, as indicated by the pathological conditions.—*Canada Lancet.*

THE PURPURAS.

Purpura is a name given to a class of disorders of the most varying origin, and presenting the most divergent types. The result is that systematic writers upon purpera have, as a rule, treated the subject in a tentative and uncertain manner, giving classifications and descriptions which were admitted to be mainly provisional in character. Under the general head of purpura, one finds subdivisions of purpura simplex, purpura rheumatica, or peliosis rheumatica, purpura hemorrhagica. We have, besides, nervosa or myelopathic purpura, purpura urticans, purpura papulosa, purpura scorbutica, or scurvy, and the various cachectic, purpura senile, infectious, and mechanical purpura.

From all this it may easily be seen how little of definite significance the term purpura possesses. In the attempts at classifying its types we may abandon at once the divisions into idiopathic and symptomatic, for it can safely be said that purpura is always symptomatic of some profound nutritional or mechanical disturbance. We can also exclude from the ordinary purpuras the purpura scorbutus, since that is a well-defined malady of quite well-known origin. The three types of purpura which are most commonly seen in this country are probably the purpura simplex, purpura rheumatica and hemorrhagica, and certain cachectic forms occurring in alcoholic and also in debilitated subjects. The simple purpuras include those mild types observed oftener in the aged, and not associated with much articular or gastro-intestinal disturbance. There is difficulty in really separating the types known as purpura rheumatica and purpura hemorrhagica. There are intermediate forms which show that the disease has the same general origin. In the purpura hemorrhagica the mucous membranes are more profoundly involved; in purpura rheumatica, it is the joints. In a recent brief paper by Dr. William A. Edwards, on "Some Forms of Purpura Rheumatica" (*University Medical Magazine*, September, 1889), illustrations are given of three types of purpura rheumatica described by Osler. From the description of cases given it would seem quite justifiable, however, to give up the term purpura rheumatica altogether, and include all the different severe forms under the general title purpura hemorrhagica. These may then be further qualified by the terms arthritic, or gastro-intestinal, or mixed. The attempts to make of purpura a nervous disorder (Couty, Henock, Faisans) have not been very successful, although purpura, like urticaria and edema, may no doubt, at times, be the result of nervous influences; but where there are severe hemorrhages and ecchymoses, a deeper disturbance of nutrition must be invoked.

The belief has been that the cause of the purpura directly was a poison developed through some fault in chylopoëtic metabolism, and this is no doubt generally the case. But efforts have been numerous to place the disease among those of microbic origin. Micrococci have been found by competent observers in the ecchymotic spots, and Guimand (*Paris Médical*, September 8, 1888) has succeeded in making pure cultivations and inoculating rabbits, with the result of producing purpuric eruptions.—*Medical Record.*

ELECTRICITY IN GYNECOLOGY.

The discussion over the value of electricity in pelvic disorders still continues, and the views of gynecologists still remain far from settled. The method, outside of Paris, has chiefly been tried in Great Britain and the United States. In the former country such eminent authorities as Sir Spencer Wells, the Keiths, and Dr. W. S. Playfair are inclined decidedly to favor Apostoli's method, while Mr. Tait and Mr. Bantock are as decidedly against it. In this country no one very prominent as a gynecologist has, so far as we know, undertaken to champion electrolysis, but a number of men of excellent repute have reported their results, and have as a rule spoken favorably of the method. Useful contributions to the technique have also been made by Martin, Goelet, and other American physicians.

It is evident, from the tone of discussions upon the subject, that the older gynecologists, while not favorably disposed toward Apostoli's method, have not tried it to any great extent.

There seems to be a tendency to use milder currents than were formerly advocated, and a thirty-cell battery is even stated to be amply sufficient for all purposes. It seems, therefore, that a maximum current of one hundred milliampères may often be all that is needed; while we hear little now of the eight hundred and one thousand milliampère currents about which discussion was first raised.

Dr. A. Lapthorn Smith, of Montreal, has recently given an interesting account of his experiences with Apostoli's method (*American Journal of Obstetrics*). Dr. Smith has abandoned punctures, and relies upon the intra-uterine applications, using not very strong currents, apparently not much over one hundred milliampères. He reports cases of endometritis, perimetritis, and fibroids cured or greatly relieved. No exact rules can be given as to the frequency and number of applications, or the strength of the current. The use of the positive pole in hemorrhagic conditions is approved by him, as by all others. It seems, indeed, that a relief of menorrhagia is one of the things which it is agreed electricity can accomplish. Ovarian pains also are often cured. The exact effect of the currents upon fibroids is yet an unsettled point. They certainly often decrease in size under treatment, but whether there is a true electrolytic action is yet hardly demonstrated.

It is noticeable that most of the older men who have worked successfully with the knife are inclined to stick to the tools they have been handling. But evidence is accumulating which makes it apparent that there are many cases in which hysterectomy or ovariotomy ought not to be performed before an electrical treatment has been tried.—*Medical Record.*

SYRUP TRIFOLIUM CO.—A DESIRABLE ALTERATIVE FORMULA, A SUBSTITUTE FOR SYRUP SARSAPARILLA.

The London *Hospital Gazette*, August 3, 1889, calls the attention of physicians to an alterative formula in the following words:

The pharmacopeia is singularly poor in vegetable alteratives, and sarsaparilla the best known and most frequently prescribed, is most uncertain in action, and frequently very disappointing in results. Any well tested addition, therefore, to our materia medica in this class of remedies, will, we are sure, be gladly welcomed by practitioners. Some time ago we received from Messrs. Parke, Davis & Co., of Detroit, U. S. A., a sample of a syrupy compound containing the essential elements of trifolium pratense (red clover), stillingia sylvatica (yaw root), lappa officinalis (burdock), phytolacca decandra (poke root), berberis apuifolium (mountain grape), cascara amarga (Honduras bark), and xanthoxylum Americanum (prickly ash). All these are powerful alteratives, and have been in common use by American physicians in cases of a scrofulous or syphilitic nature. The proportions of each drug contained in the syrup are given with the directions, and to increase its operative action eight grains of iodide of potassium have been added to each ounce. We have used it with decidedly satisfactory results in some cases of chronic skin diseases of suspected specific origin. Being very palatable, children take it readily, and we have found it exceedingly useful, when combined with small doses of perchloride of mercury, in treating congenital syphilis.

THE BLOOD-VESSELS OF THE LUNGS.

Some time ago we asserted editorially that the blood-vessels of the lungs had practically no vaso-motor nerves. This statement was based chiefly on the fact that the presence of such nerves had never been positively demonstrated in mammals by physiological experiments; and also on the well established fact that the pressure in the pulmonary circulation is very little influenced by nervous stimulation, or by the changes in the heart's activity, such as affect the systemic circulation. It is equally known that the tonus of the pulmonary arteries is very slight, while the vessels are very yielding and distensible. The result is that a complete obstruction of a large pulmonary vessel hardly changes the blood-pressure in the lungs at all, owing to the easy relaxation of the vessels elsewhere.

It is a fact, therefore, still holding good, that the pulmonary blood-vessels are but feebly influenced by vaso-motor nerves.

The actual presence of these has, however, been quite recently demonstrated by Drs. J. R. Bradford and H. Percy Dean (*Journal of Physiology*, Vol. x., Nos. 1 and 2). These experiments were made upon dogs, and resulted in showing that vaso-constrictor nerves originate in the medulla, pass down the spinal cord, make their exit from the second to the seventh dorsal segments, and pass to the arteries of the lungs. Stimulation of them causes a slight rise in pulmonary blood pressure, but their influence is not strong.

The use of a drug like ergot in hemorrhage from the lungs has therefore not much support on physiological grounds.—*Medical Record.*

THE LOCAL TREATMENT OF DIPHTHERIA.

BY DR. J. C. MULHALL.

The doctor says the method of treatment which he suggested was based upon the following considerations:

1. That diphtheria is a germ disease.
2. That the specific microbe, in the majority of cases, selects the tonsils.
3. That unless checked by treatment, the colonization of these germs results in local putrefactive changes, with subsequent involvment of the general system.
4. That implications of the larynx or of the nasal passages, increase the mortality.
5. That the disease is acutely adynamic. It had occurred to him that in this disease it would be better to wash out the throat than to spray it. This is accomplished by means of an ordinary syringe, without difficulty. The patient should be kept in the recumbent position, the head being brought to the edge of the bed. This procedure is repeated every hour during the day, and at no time is a longer period than three hours allowed to elapse. The only solution that he has used has been carbolic acid with compound solution of iodine. The water is frequently saturated with boracic acid.

The post-nasal space requires careful attention. In every case of diphtheria the nasal cavities should be kept sterile from the first. Where it is certain that the nasal cavities are not affected, the insufflation of a non-irritating, antiseptic powder may be washed out with a weaker solution of the same kind—not more than a teaspoonful for each nostril. For this purpose he recommended a small glass syringe with a bulbous extremity, to prevent injury to the nose. After cleansing, he frequently resorts to solvents and has obtained the best result with pepsin. In laryngeal diphtheria, inhalation is the only practical method. The inhalation of the vapor from slacking lime should not be forgotten. In several cases of laryngeal diphtheria he has obtained good results by placing the patient in a small room which had been fumigated with sulphur, and by keeping water, to which has been added pine-tar and turpentine, constantly at a boiling point.—*American Lancet.*

MALE FERN AND CALOMEL FOR TAPE-WORM.

In the treatment of tenia Dr. Duchesne strongly recommends male fern combined with calomel, according to the following formula:

Eth. extract male fern..	2 drachms.
Calomel..............	12 grains.

M.—Make 16 capsules, which are given two at a time every ten minutes until all are taken.

The great advantage of this preparation is that the patient has nothing to drink, and that the purgative is taken along with the worm-medicine. For some people, especially women, capsules are difficult to take, in which case the medicine is perhaps best taken with molasses. Sometimes the capsules provokes colicky pains, but these can be avoided by taking 20 grs. of antipyrin fifteen minutes before the capsules. With these capsules Duchesne has yet to experience his first failure, and he has already used them in hundreds of cases. Male fern is the only remedy that will successfully expel the bothriocephalus. The treatment of tenia in children is a difficult matter, but he has been regularly successful with the following plan: After fasting twelve hours, administer the following preparation to a child of 5 years:

Eth. extract of male fern..	1 drachm.
Calomel...............	6 grains.
Sugar.................	2 drachms.

Gelatin. q. s. to make a jelly of ordinary consistence.

The patient should be told to take an injection of salt water when the worm appears at the anus, and then sit over a vessel of warm water to float the worm and prevent it breaking from its own weight. The one point always to be remembered, on which success depends, whatever the vermifuge used, is the necessity of administering the purgative soon after the substance which stupifies the worm.—*The Weekly Medical Review.*

MILK AS A VEHICLE FOR TRANSMISSION OF TUBERCLE GERMS.

Every word which has been spoken or written against milk, as a vehicle for the transmission of tubercle germs, is an argument in favor of the use of condensed milk and the baby foods; in which any disease germs existing in the milk are destroyed by the heat applied to drive off the water. If these preparations are put up so as to prevent subsequent contamination, as they generally are, they are safer than milk; unless the latter is thoroughly boiled. Where we can rely on this being done, the milk is as safe as any manufactured food; even if we cannot know whether the milk is derived from a healthy animal or not. But it is well for the physician to assure himself personally that his directions are properly carried out; as domestics have a way of assenting to them and then doing as they themselves prefer. We recollect one case in which we had laid down the strictest directions as to the food of a sick child; and came in to find the nurse giving it, from a dirty cup, some milk, so sour that it had coagulated. It is never safe to presuppose the intelligence to comprehend, or the care to execute, the directions given.—*Times and Register.*

AN "INFALLIBLE ANTIDOTE" FOR MALARIOUS FEVERS.

Dr. G. R. Naylor, Civil Surgeon, of Burmah, India, addresses a report to the Deputy Surgeon-General of British Burmah in which he asserts that carbonic-acid gas is an infallible antidote to malarious fevers of all types and durations. Dr. Naylor's report is republished in Edinburgh. It was first made eight years ago, but is now put forth again in an enlarged form and with the emphasis and confidence drawn from a fuller experience.

Dr. Naylor does not claim originality for his treatment. It was devised or discovered by Dr. John Parkin, of London, who tested its value while visiting malarious districts of Italy, Spain, and west Africa.

The *rationale* of the gas treatment is expounded by Drs. Parkin and Naylor, but it is far from being satisfactory or scientific and it need not occupy our space.

The gas is administered in solution and is got in its cheapest form by dissolving bicarbonate of soda, gr. xxx., in three ounces of cold water, and throwing into the solution tartaric acid, gr. xx., in a powdered state, the mixture to be stirred rapidly once, and swallowed as soon as possible in a state of effervescence. The patient must be made to lie down immediately after, to prevent eructation and escape of the gas, so apt to occur in a sitting posture.

The doses of soda and acid must be decreased to suit the different ages of children, as gr. xxx. of bicarbonate of soda are not soluble in the small quantity of water suitable for administration in one dose to very young children.

Sometimes the soda is given first and followed by the acid.

The remedy is best administered just before the paroxysm is expected, or in the remission if the case be one of remittent fever. Dr. Naylor cites a long list of cases cured by the gas *Medical Record.*

Instantaneous Cure of Whooping-Cough.—In the *Archives of Pharmacy*, 1889, page 382, it is stated that the instantaneous cure of whooping-cough was attained by Dr. M. Mohn, as a result of accidentally observing that the disinfection of the sick-room of the whooping-cough patient by sulphurous acid caused the disappearance of the paroxysms with a rapidity bordering on the marvelous. The patients are freshly clad in the morning, and placed in another room, in which they remain during the day. Meanwhile, 25 gm. of sulphur is burned in the sick-room to each cm. of space; and after the bed-clothing, garments, etc., have been properly spread out, and the sulphurous acid been permitted to permeate the air for five hours, the patients return to their disinfected sleeping rooms in the evening, and are cured of whooping-cough.

Physicians may not generally be aware of the fact that sulphur bricks are obtainable which may be burned to secure the effects of sulphurous acid by inhalation, or for general disinfectant purposes. Parke, Davis & Co. supply these, as well as a general line of disinfectants for household use, and will afford physicians all desired information concerning them on request.

The Treatment of Corns.—Dr. C. McDermott writes to the *British Medical Journal* that a saturated solution of salicylic acid in flexible collodion is an excellent remedy for corns. The corns should be painted twice a day. It takes about twelve days for their complete removal.

THE DIETARY.

Many have been the changes in the progress of medicine during the last few years. New discoveries have been made, new facts developed, and new theories propounded, awaiting further confirmation. In certain departments the changes have been greater than in others, though in all there has been in the near past and there is to-day, a beehive-like activity that is developing as much as possible the honey of life, by the prevention and cure of disease. Surgery is advancing with tremendous strides, and even now hesitates not to delve into the most hidden parts of the human organism, to remove therefrom the cankering centers of pain and wretchedness; obstetrics is softening the pangs of child-birth; neurology is promising to the paralyzed and epileptics, formerly considered hopeless, a possible restoration of their former powers; pathology is pointing with a more positive finger to where remedies should be applied; and therapeutics is fast learning to apply those remedies in the manner that shall accomplish most thoroughly and most quickly the desired results. With all these improvements and discoveries, new sciences and new departments of medicine have arisen, such as hygiene; old departments, such as dietetics, have been given greater prominence, and the whole outer face of medical science has been more or less altered. The recently discovered zymotic causes of disease have shown the greater importance of prevention over cure. The maintenance of the public health by attention to hygenic conditions and the recommendation of appropriate foods, is fast superseding the mere administration of drugs as the more practical duties of the average practitioner. How much the reverse of all this was the custom only a few years ago, when the knowledge of medicaments only was considered the special thing a physician ought to possess, and when, in consequence, epidemics and devastations, the result of careless hygienic conditions, ravaged whole towns and nations.

We cannot attempt to note all the advances that have recently been made, but we do desire to call attention to one department of the medical art—namely, dietetics—which is probably more important than all the others together; for, as the poet has wittily said:

"We may live without poetry, music, and art;
We may live without conscience, and live without heart;
We may live without friends, we may live without books;
But civilized man cannot live without cooks."

Proper feeding is the great question of all time, both in health and in disease; and in these days of delicate palates the preparation of the food is of paramount importance. How little attention is given to this all-important subject in our usual text-books! Aside from a few general scientific principles laid down in works upon physiology and a scattering of monographs, scarcely any serious study has been devoted to it whatever in the past. In the household, the art of preparing the food is usually and singularly relegated to the most stupid and uneducated individuals. Mothers and daughters disdain to enter so odorous a place as the kitchen, or to have anything to do with so vulgar an occupation as cooking. If such be the views all but too common nowadays among the laity, why wonder that the self-imagined scientific physician is disgusted with the very thought of having to direct the cooking of the food for his patients? Yet it is nevertheless true that he must do so if he wishes to be a successful practitioner. Either from their own ignorance or their absolute confidence in the doctor, patients will not only inquire what they eat, but also how to prepare it. They will ask often how to cook the simplest articles, and no general answer such as "broiling" or "roasting" will satisfy them. They will want to know how long it should be cooked, how much it should be seasoned, and the quantities of each ingredient, if it be a mixed dish. Furthermore, the physician himself will sometimes suggest a preparation which is perfectly familiar to his own palate, but of which the patient may never have heard; then, unless he can follow up his suggestion by a description of its mode of preparation, he will cut but a poor figure in the eyes of those about him. In these days, when drugs are being less employed than they were formerly, most of the physician's directions will relate to the comfort, surrounding conditions and appropriate feeding of the patient. Hence the matter is not so puerile as at first it seems to be.

We have occasionally met with the most lamentable ignorance among medical men in regard to the preparation of ordinary foods. They have ordered beef teas, punches, blanc mange, and other light articles of diet, and then had to trust to the intelligence of the attending nurse for the proper preparation of the same. They could dilate by the hour upon the chemico-physiological processes of digestion, but couldn't tell how to prepare the staple articles of a digestible dinner. The former is undoubtedly scientific; but the chemistry of cooking is quite as scientific, and certainly deserving of a little more study than has hitherto been accorded. Of what avail is all the knowledge of a musician if he knows not how to perform the simplest melody upon an instrument? In practice, the simple description how to prepare a palatable dish will often produce a more profound respect on the part or the patient than the inditing of half a dozen Latin prescriptions; nay, more, it will often save the patient from the risks and dangers of ignorance and restore him sooner to health. We have known of young medical men taking short courses at some cooking school, and we are sure that they have never regretted it. But nearly every medical practitioner has some female relatives who can initiate him into the rudiments of the culinary art, and then with his chemical knowledge he can proceed to modify the processes accordingly. To the true man of science, nothing is beneath attention, and if he be a practitioner, it is all the more necessary that he be familiar with the common things in life with which he has to do.—*The Dietetic Gazette.*

THE IMMEDIATE CAUSATION OF LABOR.

From the earliest times this subject has been the *quæstio vexata* among physiologists. Some have attributed the termination of pregnancy and the beginning of labor to one cause, some to others, and not a few to a whole group of causes dependent upon certain conditions, both of the fetus and of the mother's genital organs. Up to the present time no single theory has been accepted as the true explanation. Barnes holds that some change in the fetal circulation produces a corresponding change in the mother's, and so institutes the process of labor. The views of Drs. Power, Depaul, Dubois and others in regard to the sphincter action of the cervix uteri and the reflex action of the latter upon the uterine walls as the ovum descends and comes in contact with it about the latter months of pregnancy, are probably those most generally adopted, though they are surrounded by more or less valid objections. Extreme distention of the uterus, advanced as a cause by Dr. King, fatty degeneration and gradual separation of the decidua, proposed by Sir James Simpson, and the ovarian theory of Tyler Smith, have each been objected to as not sufficiently plausible or scientific. Lusk temporizes by grouping all the causes in the order of their relative frequency thus: with the advance of pregnancy, the uterus becomes more irritable, the decidua less firmly attached, the carbonic acid increased in amount in the blood, the circulation more easily disturbed, the emotions and sensibilities more readily excited, and the ovum more like a foreign body requiring its own expulsion. Tanier, without attempting to arrange them according to their relative significance, also collects a group of causes, chief of which he cites the development of the uterus at the end of the ninth month, the hypertrophy of the muscular fibres, the increase of the uterine, nervous and venous symptoms, the obliteration of the neck of the womb, the separation of the decidua membrana at about the level of the cervico-uterine canal, the direct contact of the fetal membranes with the external os, and the repeated energetic movements of the fetus itself. The chief factors, therefore, in the production of labor, as explained by the author, are irritability and reflex action. On the other hand, Prof. Garimond, of Montpellier, gave as his theory, so recently as last year, the single cause, irritation of the uterus at all points of its internal surface by the growing fetus.

After all it seems we must admit our ignorance in regard to one of the commonest of physiological phenomena, for here, as in all other departments of science, the simpler the phenomenon, the more difficult often is the explanation. The action of gravitation, and the transmission of light, were every day occurrences, and yet how long before any explanation of such common facts was afforded! It all appeared so plain and manifest that a mere figment of the mind propped up by a few specious arguments was accepted in lieu of experimental demonstration.

The question as to the immediate causation of labor belongs to this category of commonalities. It has been settled more by argument than by long and close observation. The general consensus of opinion is that irritation of the uterine nerves probably enters as the most important factor; but having scaled this first obstacle, another is encountered in our advance to the proper solution. What is the immediate cause of this irritation, and what is its *modus operandi?* Is the irritability simply a physical process dependent upon the enlarging fetus, becoming, as it were, a foreign body, and by reflex irritation causing its own expulsion, or is it a chemical one dependent upon certain irritative changes in the blood, and the circulation? Most authors give special weight to the former statement of the case. Then, again, is there any change in the motor nerve centers of the medulla, or in the uterine nerves themselves to give rise to the heightened excitability? Such are a few of the questions still awaiting a satisfactory answer which is founded upon exact experimental research.

In the August number of the *Archives de Tocologie*, Dr. Girin, of Montbrison, published a long and exhaustive paper, in which he accepts the irritability hypothesis, believing that the gradual descent of the fetus within the uterus, and its final contact with the sensitive surface of the cervix is the origin of the whole process of labor. The originality about the author's paper is the way in which he explains the regular, periodic descent of the fetus, and its corresponding induction of labor at about the same, regular, fixed time. Basing his arguments upon the experiments of Preyer, Buniva and Vauquelin, Labruhe, Pinard, Gauthier, Mya and Graziadei, in regard to the comparative densities of the fetus and amniotic fluid, showing that the latter diminishes while the former increases, he asserts that the beginning of labor is dependent solely and primarily upon the principle of Archimedes. This is, then, the immediate cause in determining labor, and is purely a physical and mechanical one.

The density of the amniotic fluid attains its maximum during the earliest months of pregnancy, and can reach even as high as 1.030. At term it had reached its minimum, and is then but little above unity.

The density of the fetus, on the other hand, is below or about equal to that of the amniotic fluid during the earliest period of pregnancy. The fetus at this time is a true floating body, but its density gradually increases with the contamination of pregnancy in inverse proportion to that of the amniotic fluid. Pathological changes or improper development in either the amniotic fluid or fetus, can therefore be cited in the majority of cases as explanatory of miscarriages or abortions not traumatic in origin. This is a simple explanation of the induction of labor and on the face of it exceedingly plausible. The author's paper contains reliable statistics and is full of close, sound reasoning. Further proof is needed, however, and if it be forthcoming, a most important factor will be obtained in explaining the immediate causation of labor in health, and in many diseased states.—*Times and Register*.

THE KOLA NUT.

We are pleased to publish Dr. Hutchinson's interesting account of this comparatively little know remedy, knowing that it will aid in familiarizing the profession with what promises to be one of our most salutary nerve tonics and stimulants. The *Kola* or *Cola* nut is properly the seed of the fruit of the *cola aeuminata* or *sterculia acuminata*, a native of the tropical parts of the western waste of Africa. There are two varieties of the tree, which grows from 30 to 60 feet in height—one with broad and the other with narrow leaves. The ripe fruit is a brownish yellow pod, from 3 to 6 inches long and contains from 5 to 15 red or white seeds, weighing from 5 to 25 grains each. The nuts are of the size of a pigeon's egg, have a bitter taste and possess properties analogous to those of Peruvian bark.

Albert L. Gihon, Medical Director U. S. N., has written upon the kola nut in the *Report of the Surgeon-General for the Navy for 1886*. He says that recently it has been found that the kola nuts can be ground and made into a paste resembling the chocolate made from the roasted kernals of the *theobroma cacao*. It was assumed to be a nervous stimulant from its empirical use by the natives of its habitat and from its known chemical composition, which exhibited two and one-third per centum of caffeine and a small amouut of theobromin, and consequently appropriately classed with maté, coca, cacao, coffee, tea, and guana, all of which, except perhaps, the last, it surpasses in its proportion of caffeine.

The kola may be prepared for administration after the usual manner of a chocolate beverage, by trituration with sugar and solution in boiling milk, and taken hot, in quantities of from 10 to 15 grains, midway between breakfast and lunch, and again between lunch and dinner, to avoid interference with meals. Taken at night it would probably cause wakefulness. Its somewhat disagreeable taste and odor may be masked by the addition of the ordinary flavoring vanilla extract. If allowed to cool, a yellowish gum separates which is not dissolved on reheating and is extremely unpleasant. The trituration is required to be thorough to avoid grittiness and imperfect solution.

Dr. Gihon is induced to recommend the remedy as a nerve stimulant and an invigorating and waste-preventing agent in neurasthenic cases. It produces its effect without marked excitation of the circulation, and consequently with no after-effects of depression and exhaustion. It is a mental exhilarant, overcoming despondency and brightening the intellect without resultant languor. It imparts tone to the musrular apparatus and secreting organs, and it is probably a positive nutrient from the quantity of contained proteids, fat, and sugar.

An article in the *Pharmaceutic Journal* states that "kola plays an important part in the vital life of many of the African tribes," and the authors (Heckel and Schlagdenhauffer) mention some of the occasions upon which it is used in terms almost identical with those in a paper read at an evening meeting of the Pharmaceutical Society eighteen years ago.

As the result of a series of observations made at the Main Mir Camp of Exercise during January, 1889 and a similar series conducted at Umballa during January, 1888, Surgeon R. H. Firth draws the following conclusions in regard to the value of this new remedy, and publishes them in the *Practitioner* for July, 1889:

The kola nut is not food, but must be regarded purely as a drug. Its physiological action upon the human organism is to increase the flow of urine, with a slight reduction of its total solids, and a marked reduction of the extractives eliminated by it. This action is probably due to the *caffeine* it contains, and which favors increased oxidation of the tissues. It does not affect the nitrogen output whatever.

When it is pure and not too old, it exercises a stimulant action upon the nervous system; strengthens for the time the heart-beat, and increases the arterial tension. Some observers have exaggerated its powers to ward off mental and physical depression, though it does indeed have some such effect. As an infusion with milk and sugar, it is a good substitute for tea and coffee, being especially superior to either, by reason of its greater astringency, for those suffering from diarrhea. As a therapeutic agent in convalescence its value is not very apparent, nor is its alleged antagonistic action to alcoholic sequelæ capable of proof. Its action is purely mechanical in clarifying water, and is not superior to that of any other mucilaginous seeds. Surgeon Firth recommends its use chiefly as a stimulant for travelers and soldiers, aiding them on account of its peculiar effect upon the lining membrane of the mouth, stomach and intestines, to take indifferent food and water. For this purpose the nut must be fresh and chewed continuously. Both Medical Inspectors Gihon and Hudson report favorably after the trial of this remedy in nervous cases, chiefly of a neurasthenic character. The latter says he is led to believe that we shall have in kola a valuable remedial agent. So far as the effects upon the heart are concerned, the considerable percentage of caffeine which it is said to contain would seem to make it theoretically useful as a heart tonic. But caffeine was tried without benefit in his case, and, from the difference in results, it would be a reasonable inference that there are other principals, posssibly contained in the so-called "extraction matters," upon which the activity and usefulness depend.

It seems probable, however, that the chief value of the kola nut will be in cases of dietetic emergency and exhaustion from over-exertion. —*The Dietetic Gazette.*

WHAT ARE THE PRINCIPLES OF THE TREATMENT OF PHTHISIS?

About phthisis has clustered a vast amount of study during the last few years. New discoveries like a wave have swept over the world, and what now remains of them all? As a fact, we have learned that in phthisis certain microbes are found in connection with the excretion of the diseased tissues. Whether these microbes cause the disease, or are the accompaniments of it, is not settled. It, however, seems more than probable that, like the carrion crow in its relation to the dead horse of the plains, they are simply the scavengers. It is probable that, like all scavengers, they may contribute to the distribution of the morbific material.

Of the various specifics that have been pushed upon the profession, eagerly accepted by both profession and people, we recall: The pneumatic cabinet; the injection of sulphuretted hydroden to be eliminated by the mucous membrane of the lungs while *en route* to destroy the microbes; the inhalation of various substances in the form of vapors; the injection through the chest walls of creasote, etc.; the inhalation of hydrofluoric acid; and the inhalation of hot air. These are some of the ways by which it was supposed the microbes, etc., could be deprived of their vitality and the patients cured of phthisis.

After a careful study of all these methods, Dujardin-Beaumetz, tell us, that in the cure of phthisis we are reduced to alimentation and the breathing of pure air. By these means, we may hope to render the soil unfavorable to the development of the tubercle bacillus. We have learned that these bacilli only attack certain subjects. Only upon these can they live. If the individual is in a stage of normal health, the bacilli that penetrate his air passages are destroyed. To all such, tuberculosis is non-contagious. Thus, in so far as we can determine from the results of the numerous workers in this field, the foundation of prevention and treatment centres about the soil for their growth. The proper alimentation, and the purest air at the best temperature for the most perfect growth, are the remedies to which we are restricted in the management of this disease. True, medication will alleviate symptoms, but in the broad sense, none are curative or important in the absence of the conditions mentioned.—*American Lancet.*

President de Winton, of the geographical section of the British Association, states that American climate has improved the physique of the Anglo-Saxon race.

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NOVEMBER, 1889.

EDITORIAL.

MURIATE OF COCAINE.

On the introduction of a new remedy we are sometimes inclined to deceive ourselves because of the too often extravagant promises of experimenters. Such has been the experience of the disciples of Burgeon, Motchoutkowsky and Brown-Sequard, and none are better able to appreciate this tendency in the profession than those who are familiar with the medical press. After the primary enthusiastic reports come the conservative opinions of observant practitioners, when the virtue of the new drug is established or expelled. Such has been the history of the muriate of cocaine. Undoubtedly we are greatly indebted to Dr. Karl Koller for the discovery of the anesthetic power of cocaine, who cannot be blamed because of the unfortunate accidents which have sometimes followed its use. So long as the medicine was applied to temper the sensibility of mucous surfaces, there was no opportunity for distressing accidents, but when the injections of strong solutions were practised to annul the pain of almost capital operations, we found that we possessed a drug of dangerous properties.

It seems that cocaine when absorbed, acts either on the heart or the controlling center about the medulla; for in cases of poisoning the cardiac symptoms are predominant and sometimes convulsions of a tetanic character. The pallor and syncope which is observed may be psychical; for a knowledge that an operation is being performed on us, even if it be painless, may cause us to faint; but very often the distress is symptomatic. Several deaths have been reported. Dr. Sims injected a 20% solution of cocaine into the deep urethra of a man who died twenty minutes afterward. M. Abadie reported the following case to the Paris Ophthalmological Society: He was about to operate on a lady sixty-one years old. In presenting the hypodermic syringe to him his assistant remarked that it contained a 5% solution instead of a 2% solution of the muriate of cocaine, which he habitually used. Holding in mind the strength of the solution, he injected into the subcutaneous tissue of the eyelid two-thirds the contents of the syringe, about six-tenths of a grain of the salt. Five minutes afterward the tissues were anesthetized when he made an incision through the skin with a galvano cautery, when as is usually the case, considerable of the fluid escaped from the wound. The patient did not complain of any unusual sensations, but in descending from the table she was seen to stagger and on being assisted into a neighboring room she sank to the floor in a faint; immediately she seemed to cease breathing, the face was congested, the lips blue, as in asphyxia. The surgeon forced open the mouth, pulled the tongue forward with forceps, and putting his finger deep into the pharynx titillated the epiglottis and larynx. In the meantime the assistant kept up artificial respiration, and gave two injections of ether. She partially recovered, but the face remained congested and the patient unconscious. In about half an hour she could articulate some words. She was then placed in bed and given some caffeine, but notwithstanding all that could be done for her, she died at 8 o'clock that evening.

The injection was given at 3 o'clock in the afternoon.

At St. Petersburg Dr. Kolomonine undertook to remove a cancerous rectum after local cocaine anesthesia. His patient died from the immediate effects of the drug.

A child took, by mistake, 3 7-10 grains of the muriate of cocaine. There were no immediate effects, but in an hour she awoke in dreadful anguish, the face was pale, the eyes haggard, the respiration difficult, with attacks of apnoea, the pupils were largely dilated and the eyeballs oscillating. An emetic was given, also an injection of 8 grains of the hydrate of chloral, in vain. She died twenty-six hours after the ingestion of the poison.

These unfortunate cases were published some months since; undoubtedly many similar ones have been observed. At any rate we have learned to fear the indiscriminate application of large doses and concentrated solutions.

It was the knowledge of the abuse of cocaine that prompted Dr. J. A. Wyethe, of New York City, to read a paper, "The Status of Cocaine in Surgery," to the last meeting of the Virginia State Medical Society. That experienced surgeon has given the subject great prominence, and although he has advanced nothing new concerning it, still he reminds us that the muriate of cocaine is a dangerous remedy in careless hands. Not alone with careless surgeons is it bad, but as the above translations show, the most careful operator may poison his patient. Like chloroform, it gives little warning and may destroy life regardless of all precautions, and before assistance can be of service. From experiment and observation it appears that old age and childhood are most susceptible, so it is with such we must be on our guard. Perhaps it may he fortunate that mild solutions, (2% to 4%) in moderate quantities, act imperfectly in many minor operations, consequently there is a reaction in favor of ether. It has taken some time to learn these things, and we are benefited by the shocking experiences of our neighbors. Let us remember that cocaine, like antifebrin, antipyrin, apomorphia, nitro-glycerine, nitrite of amyl and the alkaloids, is a powerful means for good or evil, and that when we use it we should do so intelligently and with the greatest care.

"DETACHMENT OF THE RETINA."

One of the most hopless disturbances of vision is the condition, detachment of the retina. In a very great majority of cases the eye so effected is irretrievably lost, and so little is the prognosis modified by treatment, however heroic, that surgeons have almost given up all hope of any successful plan. Much of our impotence depends upon the fact that, until lately, we have been in the dark regarding the immediate cause of a separation of the retina from its choroidal bed; and although we have recognized that it is somewhat common in high degrees of myopia, serous choroidits, etc.; still, we have been in doubt whether the membrane is pulled from its attachment by traction from the vitreous or forced off by a subretinal exudation. If for example we compare the eye to an egg, and suppose the hyaloid membrane to be loosly adherent to the shell and surrounding the vitreous or albuminous fluid as a closed sack, it is evident that it would be difficult by any mechanical means to detach the membrane without either breaking the shell or changing the physical properties of the egg contents. So in the human eye; it is very unusual to find retinal detachment without disease of the vitreous humor. In myopia of high degree the vitreous, from recognized causes, is commonly liquefied, when injury, a blow for instance, may rupture the abnormally stretched retina which will permit the fluid to enter between it and the choroid and start a detachment which can be partial or complete.

Nordenson in a late monograph has elucidated in a measure the cause of detachment of the retina. He demonstrates that very often the membrane is pulled off the inner surface of the eye-ball by contracting exudations in the vitreous body, the result of injury, hemorrhage or disease. Although his opinion is not concurred in by many ophthalmic surgeons, yet it has suggested a treatment which promises some hope. To-day the special journals of Europe and America contain numerous references to that subject. Therefore it is to this we call attention, and although the treatment of detachment of the retina may not be of service to those confrères who do not practice ophthalmic surgery, it cannot fail to interest everybody.

The object of all treatment in the past and present is to return the retina to its normal position and thus preserve its function; therefore, medical and surgical means are practiced. Since the discovery of the ophthalmoscope several cases of detachment have recovered without any treatment at all; and the per cent, although very small, is not less than that, the result of the old classic treatment—rest in the horizontal position in bed in a dark room for months. Therefore it is probable that nothing has been gained by any former method. Prof. Galezowski, a most experienced investigator in that special direction, one who has faithfully tried all therapeutic means, reported at the International Medical Congress at Washington in 1887, that he had only seen 7 recoveries in 789 cases.

Until lately all surgical means have also signally failed. Von Graefe and DeWecker, advocates of the secretion theory, sought by artificially opening a communication between the fluids under the retina and the interior of the eye to secure permanent results. The operation was done by passing a narrow knife into the eye and cutting the detached membrane. They failed. The same with direct drainage through an opening in the sclera, which did not restore the retina to its place. Iridectomy, the empirical master-stroke of Von Graefe, was tried but failed. Such was the status of detachment and its treatment when Galezowski and Schoeler simultaneously advanced the most ingenious idea.

In a paper read before the ophthalmological society at Paris, April, 1887, Dr. Galezowski said: "Aspiration of the subretinal fluids is not alone successful, for it is found that the secretion returns as fast as it is withdrawn, when the retina is again displaced into the vitreous. To prevent this relapse and to make the retina adhere to the choroid I have lately practiced a novel method, which consists in sewing the detached membrane to the adjacent ocular wall. Entering the organ with an armed needle a little behind the ciliary body and making the counter-puncture in the posterior segment of the eye, I pass the suture through the floating membrane and then draw it down to the choroid. The catgut suture is allowed to remain in place 10 days; during that time the retina becomes adherent, yet I do not remove the catgut from the interior of the eye but simply cut it off on a level with the sclera. I have already practiced this operation in three cases. Only in one was there hemorrhage into the anterior chamber and a large coagulation in the vitreous; consequently, I am not at the present certain of the final result. In the other two cases the results have been very satisfactory." Now, although not long since, DeWecker publically renounced any further endeavors on his part, to cure such cases by surgical means, deploring the utter hoplessness of similar operations, this report is an evidence that perhaps we are about to succeed, which, in connection with the late experience of Schoeler, makes it more than probable that there will be soon some hope for these unfortunate patients.

Schoeler's idea is still more remarkable. Believing with Leber and Nordenson that the retina is more frequently pulled from the choroid by intervitreous contracting fibrinous masses, than displaced by underlying serous exudations, he has advanced a treament which promises greater results than has heretofore been obtained. He knew from experience that mercury has a very beneficial influence on exudative diseases of the eye. Seeing daily the rapid clearing up of vitreous clouding when that drug was given to toleration, he resorts to the hypodermic injections of the bichloride to remove the primary cause, if the ophthalmoscope showed the detachment to be the result of traction, otherwise the mercury was omitted. He then injects into the vitreous a few drops of the tincture of iodine, which replaces the retina, provided the detachment is not too extensive. Then the slight inflammation which follows the irritation of the drug cements the membrane in its normal position.

It is impossible at this time to predict the ultimate result of these two methods. If in the iodine injection the reactive inflammation can be controlled and there is no danger of a total destruction of the eyeball, and if the retina will permanently retain its normal position, even should it not regain its functions, very much has been accomplished, and the profession will be indebted to those who have so carefully investigated this single disease of the eye.

HEALTH RESORTS.

The rapidly shortening days and chilly nights remind us that once again the season is at hand when the physician will be called upon to advise those of his patients who cannot bear the rigors of winter in this latitude, where to find the climate best suited to their several cases.

About this time last year we offered a few remarks upon this subject, and as we have since had the gratification of learning that where our advice was followed, results were in most cases eminently satisfactory, we recur to the subject again this fall.

As by far, the greater number of patients who require thus to migrate are sufferers from lung, bronchal or throat affections, we will speak only of conditions applicable to such cases.

As we stated last year, there are four great and necessary characteristics which must prevail in a locality to constitute it a desirable wintering place for those affected by these classes of disease. First, A small range of variation in temperature. Secondly, A porous and therefore dry soil. Thirdly, A maximum of sun and a minimum of cloud, and Fourthly, and most necessary of all, an atmosphere as free as possible from moisture.

We have found no reason for altering our opinion, as expressed in the article referred to last year, that Southern New Mexico presents a combination of these characteristics to a greater degree than any other portion of the United States known to us. The range of temperature is very small, and the average such that the invalid can usually spend the greater part of the day in the open air without the inconvenience and relaxation caused by excessive heat, or the danger of chill from too low a temperature. The soil is wonderfully porous, as is shown by the fact that the ordinary dirt roads of the country an hour or so after rain, are as dry and firm as if no rain had fallen. The proportion of sunny to cloudy days, is as ten to one, and a day cloudy through its entirety, is practically unknown; so that sun-shine—the great cure-all—can be utilized to a very unusual degree. And, lastly, the freedom of the atmosphere from moisture is phenominal; the average humidity being only 29 per cent. Air drier than this probably does not exist anywhere on the globe.

It has been a great satisfaction to us to find our opinion regarding the sanitary characteristics of New Mexico endorsed in a most significant manner by some very high authorities on the subject. Last winter and spring, a party of medico-scientists, commissioned by the "Sociéte Medicale" of France, arrived in New Mexico after inspecting many parts of the world, held in high esteem as winter and summer resorts for consumptives.

Their object, in this journeying, was to examine and report to the "Sociéte Medicale" upon the sanitary qualifications of these different localities and countries; the end in view being the location of a large sanitarium for the cure of consumption. The commission (with we believe the exception of one member, personally interested in another locality), reported upon New Mexico as in every respect better suited for such a purpose than any country they had visited, including far famed Algeria and other places heretofore noted as health resorts, especially emphasizing the fact that a case of consumption was never known to have originated in New Mexico.

It is interesting to note that they, in agreement with the position we have always taken in the matter, report distinctly against moist warm climates, (such for instance as that of Florida), as a residence for consumptives. During their travels they seem to have paid special attention and made very thorough investigations into the important question of the asceptic qualities of the various atmospheres they encountered. With this end in view, they carried out some interesting experiments. For instance, in each different locality they killed a rabbit or some such animal without abraiding the skin, and then hung it up in the shade where a good circulation of air was insured, and awaited the result. They found in moist atmospheres decomposition soon set in, whilst in New Mexico, and to a greater or less degree in other dry climates, the same experiment showed that the dry air soon absorbed all the animal juices, and after a few days, left the carcass in a mumified but untainted condition. This difference in result speaks for itself.

Such eminent scientists as Doctors Apostoli (of electrolysis fame) and Verneuil, of Paris, have become so interested in the remarkable results of these investigations, that they hope personally to visit New Mexico next spring. Upon their report, the "Sociéte Medicale" will finally decide upon the exact location of its sanitarium and other matters connected with it. In the meantime one of the commissioners, Dr. A. Petim, has taken up his residence in the little new Mexican town of Las Cruces, and will, during the coming winter, continue observations, and will also take charge of a few consumptives at a small sanitarium which has already been founded under the auspices of the two scientists just named. It is intended to recruit the half dozen patients that he can accommodate from amongst sufferers in the United States. Afterwards, when the larger institution is an accomplished fact, the intention is to draw patients almost entirely from far off France.

Thus is the climate of New Mexico becoming known to the world, and its virtues appreciated. Backed as it is by the wealth and scientific endorsement of such an institution as the "Sociéte Medicale," we venture to prediet a successful future for the French Sanita rium, and only hope that it will not be long before some steps are taken by some of our countrymen to follow their good example, and place the highest scientific treatment at the disposal of American consumptives, in a climate that, we agree with Dr. Apostoli in saying, will, with the aid of modern scientific hygenic treatment, cure consumption in the earliest stages with the "use of very little medicine."

PEROXIDE OF HYDROGEN.

In this day of antiseptic surgery and careful cleaning of wounds, there is no more valuable preparation than the peroxide of hydrogen. Being a powerful oxidizing agent, it destroys the virulent properties of nearly all exudations and secretions, so that however foul a wound or suppurating surface may be, it can be soon rendered clean by the free use of the drug. More especially is it of value in deep, badly-drained wounds, in suppurating inflammation of the ear, etc. Foul ulcers of the throat in syphilis and diphtheria, are soon cleaned, when astringents, caustics or stimulants become more effective. It has been lately extolled as a throat wash in diphtheria, and it is claimed that no substance can destroy the false membrane so effectually. We have hardly had the time or sufficient opportunity to test its value in this dreaded disease, but if it will aid in any way, however slight, to better the condition of the throat in such cases, it should be freely and generally used. It is not a poison, nor in ordinary strength irritating, so there can be no hesitation to use it when local antiseptics are indicated.

Dr. Boulware.—We regret exceedingly to report the unfortunate accident which befell our esteemed friend Dr. F. C. Boulware, of Butler, Mo., some fifteen days ago. The doctor, when returning from his morning visits, was thrown from his buggy and received a compound comminuted fracture of his left ankle. The bones were so badly shattered that it was necessary to amputate his leg, which was done a few days ago at the Missouri Pacific Hospital. He is doing well and seems to be out of danger, so there is every hope that he will recover speedily.

Test for Arsenic in Wall Paper.—The following is said to be a simple and efficient test for arsenic in wall paper: Take a strip of the paper and bring its edge into contact with a gas flame. If arsenic be present a gray coloration will be detected in the flame, and a strong arsenious acid odor will be given off.

Dangers of Hypnotism.—There seems to be a rapidly growing taste for animal magnetism among the medical profession, especially in France and other European countries. A halt should be called in this craze. We quote from an exchange the following from the *Bruxelles Gazzetta Medica de' Torino:* "In a report to the Belgian Academy of Medicine, Maison recommends the prohibition of public exhibitions of hypnotism—a much neglected piece of advice. In the report are mentioned five remarkable cases in which the first attempts at hypnotism developed epilepsy; also the case of a magnetizer who acquired such a taste for hypnotizing that he became a monomaniac on the subject. Another unpleasant feature about hypnotism is shown in the following case, which had not been described by writers previous to Maison. The servant of a doctor, who had been hypnotized by her employer, went into the service of another man, who once accused her of theft; a doctor, who suspected that the servant was a somnambulist, hypnotized her, and by this means ascertained that she never had any intention to steal, but that merely during somnambulism changed the position of some objects which she thought were not safe, and which she forgot when she awoke. The judge learning these facts, acquitted the woman."

Associate Editor.—Dr. J. H. Thompson, of this city, who is well and favorably known to the profession in the West as an oculist, has been made associate editor of the *Record.*

BOOK NOTICES.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Volume 4, No. 1. October, 1889.

THE MEDICAL NEWS VISITING-LIST, 1890. Thirty patients per week. Philadelphia, Lea Brothers & Co., 1889.

TEXT-BOOK OF ANIMAL PHYSIOLOGY, with introductory chapter on General Biology. For Students. By Wesley Miller, M. A. M. D., L. R. C. P. Eng. Prof. of Physiology, Magill University, Montreal, 1889. D. Appleton & Co., Publishers.

A MANUAL OF CHEMISTY FOR THE USE OF MEDICAL STUDENTS, By Brandeth Symond, A. M., M. D., Assistant Physician to Roosevelt's Hospital, etc. P. Blakiston Son & Co., Philadelphia, Publishers, 1889. For sale by M. H. Dickinson & Co., Kansas City, Mo.

INEBRIETY, ITS ETIOLOGY, PATHOLOGY, TREATMENT AND JURISPRUDENCE, By Norman Kerr, M. D., F. L. S., Fellow of the Medical Society of London, Physician to Home of Inebriates, etc., etc. Second edition, London, H. K. Lewis, Gower Street, W. C., 1889.

SYNOPSIS OF HUMAN ANATOMY, Being a complete compend of Anatomy, including the Anatomy of the Viscera, and numerous tables. By James K. Young, M. D., Instructor in Surgery in the University of Pennsylvania, etc., etc. F. A. Davis, Publisher, 1889. For sale by M. H. Dickinson & Co., Kansas City, Mo. Price, $1.40.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by Alfred H. Buck, M. D. Volume VIII. Containing an appendix (523 pp.) and a general index (197 3-column pp.). William Wood & Co., New York.

NEW EDITION OF REMINGTON'S PRACTICE OF PHARMACY.—J. B. Lippincott Company makes the following announcement: "In answer to numerous inquiries, we take pleasure in announcing that the new edition of Remington's Practice of Pharmacy will be ready for delivery November 5. More than 200 pages and 140 new illustrations have been added, embracing over 100 autograph prescriptions on enamelled paper, and many other new features. 8vo. cloth extra, $6.00; sheep, $6.50."

ANNALS OF THE UNIVERSAL MEDICAL SCIENCE, A yearly report of the progress of the general sanitary sciences throughout the world. Edited by Chas. E. Sajous, M. D., Lecturer on Laryngology and Rhinology in Jefferson Medical College, Philadelphia, etc., and seventy associate editors, assisted by over two hundred corresponding editors, collaborators, and correspondents. Illustrated with chromo-lithographs, engravings, and maps. In five volumes, 1889. F. A. Davis, Publisher, Philadelphia, New York, and London.

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EDITORIAL AND MISCELLANY.

Chloralamid is the name of the newest of the many recent pharmaceutical preparations now extolled as a hypnotic.

The Dietetic Gazette, heretofore a quarterly journal of physiological medicine, will in the future appear monthly. The *Gazette* is a meritorious journal and the only one treating exclusively on the subject of diet. It therefore should have a wide circulation.

Fined.—Chas. Chadwick, Otis R. Wyeth, Louis A. Shoen, Geo. J. Shoen, Chas. F. Hermann, Geo. Eyssell, and Horace L. Roy have been fined $500 and costs for counterfeiting a trade mark preparation known as bromidia.—*Kansas City Star*, Oct. 29, 1889.

Sulfonal.—W. H. Flint, M. D., New York. (Discussion before N. Y. State Medical Association.) "He had used Sulfonal as being the most efficient or desirable of the new hypnotics. He had not yet seen a Sulfonal habit. There had been about eighty per cent of successes in his cases."

A Call.—The Alumni of the Kansas City Medical College are requested to meet at Drs. Todd and Beattie's, Kansas City, on December 21, 1889, at 7:30 P. M., for the transaction of business connected with the Asssociation. A full attendance is urged.

J. E. MINNEY, M. D., *President*,
Topeka, Kas.

Erratum.—The article in the October number of the RECORD, entitled "*The Galvano-Cautery Versus the Snare in the Treatment of Nasal Hypertrophy*," which by mistake was credited to Dr. E. R. Lewis of Kansas City, should have been credited to the author, Dr. E. R. Lewis of Indianapolis, Ind.

The Medical Mirror is the title to be given a new monthly publication which will be launched January 1, 1890. Our esteemed friend, Dr. I. N. Love, of St. Louis, Mo., will be at the wheel to direct its course. The fact that it is to be edited by Dr. Love assures it a journal of the highest character.

Cotton Impregnated with Biniodide of Mercury.—The following formula is given for the preparation of antiseptic cotton:

Biniodide of mercury......	8 parts.
Iodide of potassium......	3 parts.
Glycerin	120 parts.
Distilled water	2,400 parts.

Absorbent cotton is to be soaked in the solution and then dried.

"Coca" has maintained its reputation as a powerful nerve stimulant, being used with good results in nervous debility, opium and alcohol habit, etc. The highly variable character of the commercial drug makes it uncertain, however. Robinson's Wine Coca (see page IX) we believe to be a uniformly active article, it being prepared from assayed leaves, the percentage of cocaine being always determined by careful assay.

Abortive Treatment of Gonorrhoea. Dr. Rively treats recent cases of gonorrhoea by direct application of balsam copaiba to the urethra. He puts it on a bougie and passes it in the urethra. After the first application of the bougie, which should be left in situ for six to eight minutes, the discharge disappears. But to be sure the treatment should be continued for some days. There is very little pain under this treatment.—*Wiener Medizinische Presse.*

Injection Brou.—The *Journal de Pharmacie* gives a formula for this popular injection from which the following is adapted:

Opium in powder..	0.50 gram.	or 15 grs.
Catechu in powder.	0.50 gram.	or 15 grs.
Saffron..........	1 gram.	or 30 grs.
Acetate of lead....	1.50 gram.	or 45 grs.
Sulphate of zinc...	3 gram.	or 90 grs.
Boiling water.....200	gram.	or 17 fl. oz.

Pour the boiling water upon the opium, catechu and saffron, and infuse for half an hour, then filter the liquid, add the acetate of lead and sulphate of zinc, and dissolve.

Nocturnal Enuresis.—The author, who has had an extensive experience with this disorder at the New York Juvenile Asylum, advocates the use of atropine, instead of belladonna, and urges the necessity of bringing the system completely under its influence. Dr. Baruch orders a sufficient quantity of atropia in the afternoon at 4, and at bed-time, seven, to insure dilation of the pupil; $\frac{1}{64}$ of a grain for children from six to ten, and double the quantity for children up to fourteen, administered at these hours, usually suffices. If the pupils are widely dilated when the next dose is due, it is omitted. The essential point to be clearly impressed upon the parent or attendant, is that the pupil must be dilated during the sleeping hours, as an indication that the system is under the influence of atropia. The results with this method of using an old remedy have been very satisfactory in the practice of the author.—*Archives of Pediatrics.*

Does the Baby Require Water?—This question is frequently asked and is often erroneously answered. It is true of infants, as well as adults, that water is necessary to their proper care. They sometimes require more water than is contained in the mother's milk. The infant is many times permitted to suffer from thirst, which may be the sole cause of its fretfulness. A child, when thirsty, may nurse the breast frequently and still not be satisfied, as evidenced by its paroxysmal crying as soon as removed from it. In such an instance if cold water be given the child will become quiet at once. The physician should be careful to caution the nurse to occasionally offer the baby cold water to drink, and little experience is required to ascertain whether the child wants the water or not. Excess of water does no harm, as it is speedily absorbed, therefore no evil can come of giving the infant large quantities of water, both in winter and summer.

Exalgin.—The *Dublin Journal of Medical Science* publishes an account of a new analgesic; ortho-methyl-acetanilide, which, from its physiological effects, Dr. Dujardin-Beaumetz has named Exalgin, from ἐξ, out of, and *ἄλγος*, pain. Exalgin occurs in needles or in large white tablets, according as it is obtained by crystallization or from the mass after distillation. It is slightly soluble in cold water, more soluble in hot water, and very soluble in water containing a little alcohol. The analgesic effect of the chemical is produed by doses varying from three to seven grains. The effect is said to be very marked, and in all forms of neuralgia, including the visceral variety, is thought to be superior to that of antipyrin. Its toxic dose is ascertained to be 0.46 gramme per kilogramme (about 1 : 2000) of body weight of the animal, the phenomena being trembling and paralysis of the respiratory organs. Exalgin also possesses antiseptic and antithermic properties; but its anodyne action appears to be the dominant one.

Gunpowder for Criminal Abortion.—Dr. Alexandr I. Voitzekhovsky describes, (*Medical and Surgical Reporter*), two curious cases of criminal abortion caused by the internal use of gunpowder, in the dose of a small-sized wineglassful. In both of the women, who were peasants, the foetus was expelled in a few hours after the injestion of a single dose. The substance seems to enjoy the reputation of a reliable emmenagogue and ecbolic in Russian popular medicine. As Dr. Voitzekhovsky thinks, it acts identically as savine oil, rue, powerful drastics, and such like ecbolic drugs, which give rise to abortion through their causing primary toxic gastro-enteritis. The most energetic ingredients of gunpowder are said to be nitrate of potassium and sulphur. The author also mentions a case of abortion, at the second month of pregnancy, in a woman who used for the purpose large quantities of the so-called *glühwein*, (Russian *glintvein*), that is, a red wine mulled with such spices as cloves, cinnamon, pepper, etc.

Nux Vomica in Cardiac Failure.—Dr. A. Bowie reports (*London Lancet*) two cases of cardiac failure in which death seemed imminent, that were speedily relieved by small doses of the tincture of nux vomica every half hour for four doses, then every hour.